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ORIGINAL ARTICLES.

A CASE OF PEMPHIGUS OF THE CONJUNCTIVA, WITH REMARKS.

Read in Section on Ophthalmology and Otology, at the Thirty-Eighth Annual Meeting of the American Medical Association, June, 1887.

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OF CHICAGO.

The case that I present for inspection is happily not a common one. You see a boy of 12 years absolutely blind. He can simply distinguish night from day, and as he is certainly beyond operative relief, he may with scientific accuracy be termed blind. He is blind, however, not from any disorder of the optic nerve, not from any central lesion, not from any affection of the uveal tract, not from any primary affection of the lens or cornea, not from any traumatism, but from a complete closure of both upper and lower conjunctival cul-de-sacs, and a complete adhesion of both lids to the eye-balls; the adhesion having taken place with the lids nearly wide open.

He was in practically the same condition in the early part of the year 1882, when I first saw him, as he is now, only at that time there was a large amount of photophobia and a certain amount of acute swelling of the borders of the lids, and there was a good deal more evidence of the existence of corneal tissue than now. There was at that time practically no difference in the two eyes. The left had slightly the most unpromising appearance. I say he was practically in the same condition, I mean, of course, relative to his eyes. There were at that time numerous bullæ over the body and one in the buccal cavity on the left side, on the cheek, and an angry vaccination pustule about an inch in diameter on the left arm. These bullæ continued to appear at intervals over the body for about four years. There has not been any appearance of them, according to the statement of the mother, for the last year. All traces of them have disappeared except two almost symmetrically located on the two sides of the chest, where suppuration evidently occurred. These you can inspect for yourselves.

The history obtained from the parents is that all the children were vaccinated at the same time, but that the vaccine point which was about to be used for the patient was dropped, seized by a dog, and still used. That after the vaccination fever occurred, and from that time his eyes became inflamed so that in a brief period "they were as red as raw beef." The vaccination occurred in February, 1881, and the mother is confident that the boy has not been able to see since the month of April, 1881. Previous to the vaccination the mother is confident that there had been no affection of the boy's eyes whatever. I mention this history particularly, because of its relation to a quotation by McCall Anderson from Sir Erasmus Wilson, which I shall make later.

It was to relieve this severe redness of the eyes and closure of the lids that the child was taken to an eminent oculist of this city about the month of April, 1881. I am unable to describe the condition of the eyes at this time but I learn that the attendance was limited to about three or four visits.

The interesting feature of this case is the evidence of healthy eyes prior to February, 1881; the appearance of redness and swelling and, according to the mother, inability to see since April, 1881, and my own personal observation of this hopelessly blind condition in the month of January, 1882. All certainly within a year, and in all probability, the whole difficulty having occurred in two months. Further, the presence of bullæ on the body developed after the destructive closure of the lids; their appearance in successive crops for a period of four years. The disappearance of all traces of these bullæ excepting two which ulcerated on the chest; and I think I may add, the absence of any evidences of any inherited constitutional trouble. I will add here that none of the other children were affected in any similar way.

Are we then justified from these facts, together with the present condition of the eyes which you can inspect for yourselves, and which will be described more minutely later, in concluding that during that period of severe redness and inflammation the bullæ of pemphigus invaded so extensively the conjunctiva as to destroy its texture completely and cause this complete adherence of the lids to the eyeballs. In other words, that this is a genuine case of that rare affection, pemphigus of the conjunctiva, of an unusually severe type.

You will observe that the time of development of the disease to such a disastrous result was very short and that there is no evidence of any previous trachoma. This I consider strong evidence of some destructive agency, and in the absence of traumatism of any kind, would be best explained by supposing the existence of blebs with possibly slight suppuration destroying the thin and delicate conjunctiva.

As you inspect him you will observe that the cornea of both eyes, if any cornea may be said to exist, are dry and horny. That they are never moistened with tears or mucus of any kind. You will see that the lashes are not much inverted; that the lids are completely adherent to the globes throughout their whole extent, and yet that the adhesion is so loose that it is evident that the pathological process has not invaded the deep tissues of the lids. You will see that the punctæ lacrymaliæ are obliterated, or at any rate not visible; that the palpebral fissure is of nearly normal length; that the distance between the lids in the centre is not far from normal, but that from the borders of the lids there extends over the eyeball a dry, horny pellicle, and that in the centre of the external surface of each eyeball is a dry small residue of a former tissue. I have seen no evidence of the secretion of tears. The movements of the eyeball are practically unimpeded. I think you will fail to find any evidence from the contour of the face or the teeth of inherited trouble. The teeth, however, are markedly irregular, but they cannot be referred to the classical teeth of Hutchinson. When I saw him in 1882 this peculiarity of the teeth had, of course, not appeared, he was then about 6 or 7 years old. As you look at the teeth it would appear that the two upper central incisors are separated by a tooth of another kind.

There is one thing that I must not fail to mention, and that is, that the mother has been and still is the subject of a contracted condition of the conjunctiva of the upper lids resulting in inverted ciliæ. That is the only fact that seems to be of interest relative to the family history. There are in all six children, with only one death.

Early in the year 1882 I tried, assisted by Dr. Gradle, and Dr. Niles the family physician, to separate the lids from the ball of the left eye, but the result coincided with the experience of others—it was a failure. There were no operative measures taken with the other eye.

Assuming that we are justified in calling this the results of a case of pemphigus, then it must be quite a unique case. According to Pflüger, as quoted by W. Lang, in the Transactions of the Ophthamological Society of the United Kingdom, 1886, Hebra had seen up to the year 1873, 200 cases of pemphigus, but in no case did it affect the conjunctiva. Of course it may be said that patients so afflicted would be more likely to visit the ophthalmologist than the dermatologist, but the cases are also exceedingly rare in ophthalmological literature. The subject has on two occasions been brought before the Ophthalmological Society of the United Kingdom, and in the Transactions of the Society for 1886, Mr. W. Lang reviews the literature of the subject and says that up to that time only 23 cases had been published. The first was published by Mr. White Cooper, in the L. O. H. Reports, July, 1858, and that only one of these twenty-three was published in America.

In the Traité Complet d' Ophthalmologie, by De Wecker and Landolt, p. 438, we read: "Pemphigus even when universal only rarely affects the conjunctiva." Professor von Arlt, of Vienna, in his "Diseases of the Anterior part of the Eyeball," as translated by Dr. Lyman Ware, says: "Conjunctival pemphigus is an exceedingly rare disease. The author has seen but two cases, and they had run their course." If a veteran of von Arlt's experience had only seen two cases there needs no other evidence of its rarity.

Mr. W. Lang, in his report above referred to, presents three cases, two of which had already been presented to the Society under the title of "A Peculiar Affection of the Conjunctiva." Mr. Lang strove to show that the cases published under the head of "Essential Shrinking of the Conjunctiva," by von Graefe, and the syndesmitis degenerativa, of Stellwag, properly belong to the same affection and should be classified as pemphigus of the conjunctiva. The subject, however, elicited much discussion and difference of opinion.

In referring to the dematologists we find in Besnier's translation of Kaposi, p. 57: "In pemphigus bullæ have also been observed on the conjunctiva. Pemphigus when it attacks the mucous membrane is sometimes confined to that membrane or precedes the lesion on the skin."

According to McCall Anderson, it seems to be occasionally called into activity as the result of injuries, he says: "Sir Erasmus Wilson has recorded two cases of this kind.[1] A servant girl poisoned her hand with a red paste with which she was cleaning brass. A few days afterwards a crop of bullæ intermingled with ecchymosed spots came out over the wrists and forearm and continued to trouble her for seven years. The other case was one of a medical man who punctured his right hand. Three or four weeks afterwards an eruption of bullæ made its appearance on his thigh and was repeated from time to time for eighteen months. The outbreak was preceded by feverish symptoms, there was a scalded sensation in the skin and the next morning a fully developed bulla would be discovered."

I will not attempt to refer this case to its appropriate section as pemphigus vulgaris or pemphigus foliacevs. I will leave that for the dermatologists.

The special characteristics of bullæ on the conjunctiva, if there are any, must also be left for those who have the privilege to observe them. I can find practically no direct statement of a well observed case. All the writers on the subject say that such blebs on the mucous surfaces are very fugitive, and from the delicate nature of the mucous membrane of the conjunctiva and the constant friction of the parts, their character would be still more fugitive on the conjunctiva. I certainly saw one on the inside of the left cheek. It was about ¾ of an inch long and ⅝ wide. It was moderately distended, the edges terminated abruptly, there was no manifest inflammation around the edges, and it did not seem to give any serious inconvenience. The contents were turbid as seen through the walls of the bleb.

I have no evidence to offer as to the definite histological changes which occur in such cases. I can find none.

The question of diagnosis in its early stage, from

[1] McCall Anderson, 1887, p. 255.

the evidence at our disposal, must be difficult. Mr. W. Lang, in speaking of the one undisputed case that he presented to the Ophthalmological Society of the United Kingdom, confesses he had not recognized it until Bäumler directed his attention to it. Landolt, in reporting a case, says it passed through the hands of Sichel senior, Liebreich unrecognized, and adds, that having had the opportunity of seeing the patient for several months he was convinced that the case was one of pemphigus. Von Arlt says that one of the cases he refers to had been regarded as an obstinate manifestation of syphilis until it was recognized by a dermatologist. W. Lang[2] says, in speaking of Steffans' case, "only once was a vesicle seen on the conjunctiva, and this occurred on the skin-like shrunken lower conjunctival sac." Under these circumstances the diagnosis must be conceded to be difficult. I have no suggestions to make.

As to treatment little or no definite information can be offered, at any rate such as is based on previous experience. I should say that any measures with which the surgeon is most familiar in the use of for the relief of an inflammatory condition of the mucous membrane, diluted so as to conform to the supersensitiveness of the eye, would be considered an appropriate treatment, taking as a criterion of applicability, that the treatment should leave the patient more comfortable, and that independent of any narcotic influence. Of course if it were possible to anticipate any such disaster as this, any surgical measures having in view the absolute prevention of friction of the lids with the eyeball would be justifiable.

I have said that my efforts to detach the lids after they were completely adherent to the eyeballs were fruitless; and I quote from Messrs. Lang and Juler, to show that their experience was the same. Mr. W. Lang says:[3] "Unfortunately, like some cases of pemphigus,"—he was speaking of cases otherwise classified—"it was not amenable to treatment, although every means, both medical and surgical, has been tried, such as transplanting a conjunctiva and other mucous membranes into the shrunken conjunctival sacs. M. Juler says in reference to one case: "The house surgeon attempted to separate the lids from the globe by incision, and performed the operation of peritomy. The operative interference" he adds, "was most pernicious." I have seen some of the transplantations of mucous membranes for kindred cases at different stages in its history, and although they appear well at first a few months is sufficient to destroy all enthusiasm associated with the hoped for success. Of course this remark does not apply to transplantations for other affections.

TYPE IN SCHOOL BOOKS.—The Austrian Minister of Public Instruction has issued a decree forbidding the use in public schools of books printed in small type. Small type is bad enough, but what can be worse than small German type!

[2] Oph. Soc. of the United Kingdom, Trans. 1886, p. 128.
[3] Locus Cit.

THE GERM-THEORY OF DISEASE AND ANTISEPTIC TREATMENT.

Read before the Keokuk County Medical Society, Dec. 6, 1887. and published by special request of the Society.

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It is not that I would add anything new to the already voluminous literature on bacteriology, that I call your attention to the germ-theory of disease, but from a keen realization of the fact that so intimately interwoven with current medical and scientific literature are such terms as: bacteria, incubator, desicator, serum-media, culture-media, antisepsis, asepsis, listerism and serial-cultivation, and such prodigious proportions has the new theory already attained during the past decade, that, when we consider the overwhelming evidence, both direct and circumstantial, in favor of the new theory, we are compelled, if we would read intelligently, to bring order out of chaos, and at least gain a well-formulated idea of what is and what is not the germ-theory, and what does and what does not constitute modern antiseptic treatment, medical, surgical, obstetrical and gynæcological.

The greatness of the theory demands our attention and solicits our calm and unbiased judgment. Cocaine is only awaiting the next revision of the pharmacopœia to become officinal and take her place in our materia medica with her elder officinal sisters. The germ-theory of disease is only awaiting that slow popular acceptance that ever embarrasses the advent of discoveries. In medicine, naturalism, empiricism, eclecticism, humoralism, fluidism, solidism, chemicism, mechanicism, stimulism, spiritualism, phlogisticism, pyrexism, vitalism, neuro-pathology and physiological therapeutics, have all undergone the same searching scrutiny that the germ-theory is undergoing to-day. Never were the blue depths of space more carefully studied by the telescope than are the tiny microörganisms of air to-day studied by the microscope. Never did Columbus look more keenly across the waves of the Atlantic for the Indies, than did Pasteur and Tyndal traverse the field of the microscope for those infinitesimals that cause fermentation in wine, breed discontent in open wounds, or evoke direful epidemics of splenic fever. And I might add, never did clouds more portentous appear on the medical horizon, that threatened to engulf the whole theory and practice of the healing art, than those little nebulæ which a few years ago, originated across the sea, and now overspread the medical sky on two hemispheres.

The nebular hypothesis would explain the genesis of the heavenly bodies, and nebulous masses, hitherto considered irresolvable, have been resolved by the Rosse telescope and their stellar identity demonstrated. The germ-theory of disease would not, nay, in the nature of things could not, explain the genesis of the myriad microörganisms that fill sea and air with their ubiquitous presence; but vital phenomena formerly attributed to spontaneous generation, were resolved by the microscope, and simultaneously were added to Sylva's already opulent pos-

sessions, thousands and thousandsof micrococci and bacilli.

Having thus explained the aim of my paper, allow me to call your attention to the body of the argument under the following headings:

1. What is the germ-theory of disease?
2. What is antiseptic treatment?
3. Wherein do these concern the general practitioner of medicine?
4. Wherein will the theory influence the practice of medicine?

The germ-theory of disease is the doctrine of contagium vivum. It centralizes in living, organic, vegetable, parasitic, microörganisms, of various genera and species, the unique property of generating under favorable conditions, in organic beings, certain pathological and physiological processes. Koch demonstrated in splenic fever a causative germ which he denominated bacillus anthracis; Klein a bacillus in typhoid fever; and quite recently Dr. Pasteur demonstrated so-called useful bacilli to which he attributed the following physiological characteristics: No. 1. Digests albumen. No. 2. Dissolves fibrine. No. 3. Dissolves gluten. No. 4. Coagulates milk. No. 5. Dissolves casein. No. 6. Transforms starch into sugar. No. 7. Changes lactose to lactic acid. No. 8. Changes glucose to alcohol.

According to the theory, these parasites constitute an ever-present legion whose individual functions are well specialized, although the votaries of their cause have not yet furnished a Linnaeus to classify their natural orders and formulate rules for the determination of their sex.

As certain seeds sown in the warm zones yield the delicious fruits of the tropics, but sown where atmospheric and telluric conditions are unfavorable, perish by the wayside, so these vegetable germs, whose habitat is our atmospheric air, demand favorable environment for the reproduction and propagation of their species. Each germ—an ephemeral race—and the majority of which are harmless, generates phenomena of its own kind. Just when and where the Adam bacillus came into existence, the germ theory no more explains than does the nebular hypothesis explain the origin of the "self-luminous substance diffused through space," which afterward became the starry universe. Here the world revealed by the microscope, and the million worlds revealed by the telescope—strange and wonderful extremes—revert alike for the story of their birth to Holy writ.

The nomenclature and classification of bacteria are imperfect in proportion to the darkness which envolves bacteriology. Zoph distinguishes 1st, spherical; 2d, rod-shaped; 3d, filamentous; and 4th, branching bacteria. Bacteria is the general name for germs, while the expression bacillus is used in a generic sense and applies to specific germs supposed to sustain a causative relation to certain pathological phenomena in the economy. Thus the comma bacillus, according to Koch, is pathognomonic of Asiatic cholera, the bacillus malandriæ of glanders, the bacillus lyssæ of hydrophobia, the bacillus lepræ of leprosy, the bacillus malariæ of malarial fever, the bacillus tuberculosis of tubercle.

Micrococci are bacterial germs found in decomposition, and are very hairsplittingly differentiated from their bacillar brethren by bacteriologists, being classed as 1st, septic; 2d, zymotic; 3d, pathogenic; 4th, specific; and 5th, chromogenic. Micrococci are considered causative in pneumonia, diphtheria, gonorrhœa, vaccinia and variola. The specific nature of bacilli seems established, while micrococci are considered causative in suppuration and putrid processes.

Dr. Koch says: "In no instance has it been proved that an infectious disease is due to a microorganism, unless the microörganism in question is present, either in the blood or tissues of the animal affected with the disease, after death. The microorganism must be capable of cultivation in some suitable media outside of the body, and after being cultivated for several generations, must cause the same disease when introduced into the body of a healthy animal. Finally, in the body of the last animal, the same parasites should be found as in the former case."

I gather the following detached thoughts concerning germs and the germ-theory from current medical literature: "That the germ-theory is now an established fact; that decay and putrefaction are due to living germs; that many species of germs are constantly present in the air; that disease-germs are not generally present in the air; that these latter are prone to confine themselves to one locality; that they are carried from place to place by fomites, air and water; that disease germs multiply in contact with moisture; that some germs are indigenous to certain countries; that all the leading hospitals in the world have adopted the antiseptic practice; this being obligatory in the Prussian army and navy."

Here then we have spread out before us, in microscopic proportions, the agents causative of many human maladies: Bacillus and micrococcus, tenacious of vitality, decimate society by typhoid fever, or scourge a trembling and panic-stricken population with Asiatic cholera. Here the exanthemata bear testimony to their presence, and there weeping mothers, rigid quarantine, prompt disinfection and newly-made graves, are silent witnesses to the late and awful visitation of micrococcus diphtheriæ.

The germ-theory was first announced by Pasteur, and unhesitatingly adopted by Lister and others. In this theory were broad fields for therapeutic indications, and the development of these indications is radically changing the practice of the healing-art in all civilized and progressive Nations.

One of the most ardent advocates of Pasteur's germ-theory was Dr. Lister, who, thoroughly imbued with the idea that microörganisms, ever-present in the air, and coming in contact with open wounds, cause suppuration and abscess, conceived the idea of an antiseptic dressing. The practice instituted by him is to this day known as listerism in surgery. All antiseptic surgery is listerism, but not all listerism so-called is antiseptic surgery. Listerism means absolute freedom from infectious germs.

Dr. Stubbs in his recent address to the surgical section of the American Medical Association on "Wound Dressing" said: "Such is the rate of progress, especially in the line of bacteriology, that surgical works published but five or ten years ago, are now considerably behind the times." He further adds—quoting from memory—"this is the bacteriological era in medicine. Probably the majority of the profession believe in antiseptic surgery, but none in listerism *in extenso*. So well-proven is antiseptic surgery say some, that a surgeon should be held liable at law for damages, if in the practice of surgery, where he had failed to use antisepsis his patient was not healed."

Antiseptic surgery provides that the operating room be freed from disease-germs; that operator and attendants be bathed, disinfected and clad in antiseptic garb; that hands of operator and assistants be scrubbed in cor. sub. sol. 1–1000; that the part to be operated upon be likewise treated; that all instruments be immersed in ac. carb. sol. before operation; that drainage tubes, bandages, protective, and ligatures be all antiseptically treated before operation; that the wound be antiseptically dressed.

Concerning internal medicine, Dacosta expresses himself as follows: "Thus far it must be confessed we have had, as regards internal medicine, no success in the search after agents which destroy the germs. The articles proposed are as apt to poison the patient as the microbe. Some would be even more destructive; and none can be as directly and completely brought into contact with parasitic life in the organs or in the blood, as surgeons bring them in conduct in their antiseptic treatment of wounds and injuries. But must we despair of conquering these germs? It is not too sanguine to anticipate that if their paramount importance be fully established, the means of their destruction will be found."

Dr. Ellzey, on "Antiseptics in Medicine and Surgery," says: "It is for the destruction of bacteria and their spores that we use antiseptics. So long as we are dealing with refuse materials and substances outside the living body, we may use disinfectants in any degree of concentration necessary to secure their efficiency, but within the living body, we are met by the limitation of the power of the organism to withstand the action of efficient germicides. Man cannot withstand the toxic action of any known reliable germicide in germicidal strength. Germicidal medicine, therefore, is beyond the possibilities of the present. We cannot kill bacteria or micrococci, still less can we kill the spores after they have gained access to the living body. Our therapeutic measures must have reference to the possibility of rendering the fluids and tissues more or less unfavorable for the development of pathogenic bacteria. It is not possible to make of the fluids and tissues of a man's body a germicidal pickle until after the man is dead."

At the expense of your indulgence, allow me to read you the following abstract from Garrigue's "Antiseptic Midwifery," on preventive measures in puerperal infection: It provides that the patient should have a full bath at the beginning of labor; that enema of soap-suds be given; that hands of obstetrician be thoroughly scrubbed in soap and water, and afterwards in cor. sub. sol.; that hand and everything coming in contact with the genitals be previously immersed one minute in cor. sub. sol. 1–2000 before touching the patient; that buttocks, thighs and vagina be washed and scrubbed with sol. cor. sub. 1–2000; that no lubricant except carbolized glycerine 3 per cent. be used; that in common cases the fingers be not introduced inside the os; that the presenting part, as it opens the vulva, be covered with compress wrung out of cor. sub. sol. 1–2000; that the placenta be expressed by Crede's method; that the vaginal cavity, after delivery, be injected with warm sol. cor. sub. 1–2000, provided said cavity was at any time during or after delivery, entered by the hand; that uterine injections 1–4000 cor. sub. sol. be given, provided this cavity were entered by hand or instrument; that patient be washed in 1–2000 cor. sub. sol., binder and antiseptic occlusion dressing applied, and same be changed three times daily in private practice; that genitals be flooded with cor. sol. after urination and defecation; that no vaginal injection be given in normal cases."

All these antiseptic precautions, whose foundation is the germ-theory, and actually reduced to practice in some of the leading hospitals of the world, and endorsed by the leading spirits in medicine, surgery, obstetrics and gynecology, both in Europe and America, evidently mean much if they mean anything at all. Granted that antisepsis is more easily carried out in hospital than in private practice, does not the question arise: are the beneficiaries of the former any more entitled to the beneficence of a treatment which, during the past decade, has reduced the mortality rate 60 per cent., than are the landed and intelligent element of the latter? In our large humanitarian charity hospitals we find only too often an inappreciative, would-be lawless congregation of society's choicest slums, sirens, embryonic dynamiters and revolutionists, cared for in palatial environment, amid all the regal splendor, appointment and antisepticism possible in the reach of American munificence and modern science. This is all nice and proper, perhaps, and certainly is the highest tribute to our free and charitable institutions; but do we find commensurate antisepticism thus efficiently carried out in private practice among the veritable fosterers of the aforesaid charity institutions? If not, why not?

From a medico-legal standpoint, the practice founded on the germ-theory of disease contiges the general practitioner's most vital interests, and the question arises: are we longer justified in following the moderately successful beaten paths of the past, or shall we harmonize our treatment with the teachings of the germ-theory? In the event of death from puerperal septicæmia, *e. g.*, would the shrewd prosecution ask—after having enlightened the jury on how labor is conducted in well managed lying-in hospitals:

"Doctor, before assuming charge of the case, did you see that your person and clothing, and that of all

your attendants (the 'granny women,' of course), were thoroughly bathed and scrubbed in soap and water, and afterward in a solution of cor. sub. of the strength of 1–2,000?" In nine cases out of ten the answer would be no.

"Doctor, did you bathe the patient, and wash the abdomen, buttocks, thighs and external genitals in the antiseptic solution aforesaid?" In ninety-nine cases out of a hundred the answer would be no.

"Doctor, before each digital examination did you immerse your hand in the solution cor. sub. and let it remain there for one minute?" How often would your answer be yes?

"Doctor, did you cover the presenting part on its emergence from the vulva with compresses of cor. sub.?

"Doctor, after delivery, did you wash your patient in a solution of corrosive sublimate and apply an occlusion?

"Now, doctor, you may describe the occlusion dressing to the Court and jury, and Prof. Garrigues, our expert, will tell us whether he uses that kind of occlusion in the lying-in hospital of which he has charge.

"Now, doctor, is it not a fact that you went directly from Sam. Smith's, where you were attending a case of phlegmonous erysipelas, and without changing your clothing or washing your hands made an examination of this woman, and told Susan Bangs here that it was a malpresentation, and turning would probably be necessary?

"Doctor, do you recognize the erysipelatous contagium causative in the production of puerperal septicæmia? Prof. Garrigues will enlighten the Court on this point."

These questions might be continund by hypothesis indefinitely to surgical cases, but for our purpose the point is fully developed; and at any rate the parturient canal furnishes all the conditions of an open wound, the one being as readily susceptible to infection as the other. If from no other motive than a self-conservative one, I argue that our only safety in medico-legal cases lies in rigid adherence to the principles of the germ-theory; for then, and then only, will we be able to avoid the opprobrium and penalty which the majesty of the law attaches to the dual crime of omission and commission.

Derogating from the concession made above for argument's sake—that antisepticism is more easily carried out in hospital than in private practice—I am convinced that the opposite lies within easy reach of each and every live practitioner in the country; and why? Because we, as a class of country practitioners, are surrounded by illimitable opportunities and advantages, as yet poorly developed, it is true, which are made possible in large general hospitals only by laborious detail which in itself divests the whole system of half its efficacy.

Let us notice the modern typical general hospital —with its elegant appointments, magnificent operating-rooms, water supply, efficient school for training nurses, long list of competent physicians and surgeons, spacious amphitheatres, hosts of trained nurses faithful in the discharge of every duty, pavilions and wards, strict antiseptic regulations—in fine, its hospital perfection. No human work is perfect. Did we consider its proximity to one of the greatest railroad centres of the world? Did we remember that only charity patients gain admission to its wards? Did we consider the physical depravity and moral degradation of 90 per cent. of its intramural invalids? Did we consider the gonorrhœal, syphilitic, scorbutic, consumptive and exanthematic effluvia that necessarily contaminates the air from such a medley congregation?

Divested of its superfluities; things that to it are necessities, but to the country practitioner superfluous, because here the necessity does not exist for battling against such hosts of pernicious germs; let the country physician carefully consider the analogous and essential points of difference between his quiet rural practice and that of his hospital contemporary, as foreshadowed in the preceding paragraph.

In the first place, gentlemen, you are all house physicians to hospitals not hemmed in by circumscribed architecture, whose dimensions are estimated by feet and inches, comprehending at most only a few acres of surface, and accommodating hundreds; but of hospitals miles in extent and composed of hundreds of pavilions, having few inmates; each patient separated from the others by miles of atmospheric oxygen, nature's most efficient antiseptic. The efficient artificial antiseptic you can use at pleasure. The class you deal with is the *elite* of society contaminated by a few dregs. Your water supply may always be first in quantity and quality.

It is a mistaken idea that hospital practitioners enjoy an autocratic authority over their patients not attainable in private practice. Your word must and will command both respect and obedience; otherwise you cannot meet with success. You can enforce cleanliness, and make quite efficient nurses from members of the family. This must all be preceded by much toil on your part; but still it is possible. Remoteness from great commercial and manufacturing centres, fresh air, pure water, a minimum of diseased patients in one place, unadulterated food, and milk especially, are things ever in your favor, and with difficulty attainable in large general hospitals. In hospitals the nurses are educated up to a keen appreciation of antiseptic precautions, and the physician's high authority. In the country these prerequisites do not come about spontaneously. They are creations of time, perseverance and popular education. Let us see how this latter is brought about.

An old adage says: "Make haste slowly," and it indicates the only rational plan of procedure in engrafting on the minds of the masses the importance of antiseptic treatment. Until this shall have been accomplished, the orderly antisepticism in our well-regulated hospitals must continue to show us a smaller mortality rate than we, with all our boasted pure air, unadulterated milk and farcical germicides alone can accomplish. The medium ground of antiseptic perfection, then, lies between the "Slough of Despond" of the country practitioner, and the elevated plateaux of hospital practice.

The presentation and demonstration of any new

theory to the masses is a task not easy of accomplishment. In presenting the germ theory to the people, the laboriousness of the task must fall on the general practitioner. The masses cling with wonderful tenacity to the traditions, superstitions and doctrines of the past. Herein is the charlatan's ideal and most impregnable stronghold. You can convict the murderer, punish the trespasser, imprison for grand larceny, rape and seduction; but where can you find an advocate nimble enough of tongue to shake in the popular mind that innate and implicit confidence which mankind in general place in the salves, embrocations, poultices and nostra of traditionary brilliancy? I believe we all have the infection, and are no more responsible therefor than are we for those features and idiosyncrasies which distinguish us as man from man.

Within the memory of you all, there occurred in a certain section of our country an epidemic of puerperal septicæmia, during a time when glanders was prevailing among the horses of the same locality. Every parturient woman died at that time. The loving husbands day after day cared for their horses, with their suppurating submaxillaries, and also devoted time and attention to their parturient women. If the germ-theory had been advocated then it would have met the same opposition as now.

I once attended a patient in a condition of chronic blood-poisoning from the absorption of pus from a carious bone. I suggested removal of the carious bone, and a thorough bath. To the former he demurred on the ground that an old lady had told him "healing of such things would surely kill." Against the bath he urged the objection that thirty years ago, while yet in Germany, he had bathed, and as that made him sick he would never try the same expedient again.

Even in the time of Shakespeare men were egotistic on medical topics, and the same mania is ludicrously present to-day, even among people otherwise cultured. Who has not been talked full of cancer cures? Where is the layman who would not take issue with you on the rational treatment of fevers? Where is the divine who at some time of his career has not subscribed to the efficacy of some patent nostrum as potent as Lydia's or Warner's? Where is the teacher in our public schools who would say "call a physician," instead of "My grandmother learned from an Indian woman how to cure sore throat." Would an untutored boor presume to give you advice in adjudication? Granted the affirmative, would you institute proceedings on this fool's opinion before consulting a competent attorney? In the painful event of a monstrous carbuncle on your nose, would you not try everything from skunk oil rendered in full moon to turnip salve stirred three times with a forked stick, before consulting a competent physician?

Despair we need not, for analogy alone shows medicine to be not less progressive than her sister sciences. In polity the paternostic and communistic ideas of the old world have given place to fine and orderly systems of government. In religion idols have been dethroned and Christianity preached to the heathen. The "lickin' and larnin'" of the past has culminated in gigantic educational systems, the wonder and admiration of the age. Modern chemistry bears no facial resemblance to alchemy, her grandmother. The telegraph and telephone have made journalism a great popular educator. Jurisprudence, a delicate exotic plant at the beginning of this century, having gained new strength on American soil, now sends the strong arm of the law into the most remote provinces and territories.

Equally important advances have been made in every department of medicine. Anæsthesia both local and general has wellnigh reached perfection, divesting formidable operations of all their pain and half their terror. In the hands of Neumann and others, electricity dissolves organic stricture of the urethra. The surgeon's knife invades the abdominal cavity, even the brain itself. Opium, calomel, jalap, quinia, and a number of other drugs used by the older practitioners will stand the test of time, modern discoveries making their virtues more valuable and less questionable. The cold bath in typhoid fever is destined to abandonment. Antipyrin enjoys great popular favor.

I would suggest that, as live and energetic practitioners in the country, we keep posted on the latest scientific medical thought, and be ready to accept the truth at all times. I consider it a duty we owe to our patrons and patients to give the sick the advantage of any hygienic regulation, any therapeutical agent, any meritorious medicament that may prolong life. The people must be educated up to modern ideas of prevention of disease, care of health, and the value of scientific investigations. Teach them that physicians understand the fullest details of physic as tradesmen understand their avocations. Teach them that food, water and air may, under certain conditions, be fertile sources of disease; solicit their cooperation in times of epidemics; gain their confidence, give them no time for grandmotherly lore, and I am sure they will respond with refreshing alacrity.

Hastily reviewing the germ theory of disease, the doctrine of *contagium vivum*, long ago enunciated by Pasteur and Tyndal and others, practically applied to surgery by Dr. Lister, to obstetrics, gynecology and general medicine by hosts of careful observers in Europe and America, its principles gradually finding bold expression in the efficacy of its achievements, assuming an antiseptic garb it stands open to-day to the keenest scientific criticism of the age. Its practice in surgery has wonderfully reduced death-rate from infectious germs, and the whole healing art is feeling the impact of the new treatment. Living germs cause disease. A thousand microscopes are identifying and classifying these germs; a thousand chemists are endeavoring to find agents capable of destroying these germs. Quinia destroys the bacillus malariæ. Corrosive sublimate effectually protects open wounds. The final analysis of any new theory is made by the general practitioner. Do not become discouraged by the wayside, but lend a helping hand to science.

Leaving the present status of medicine, with all its imperfect diagnostic and therapeutic resources—of course ever grateful for whatever of merit and preci-

sion in diagnosis and treatment we now possess—let us pass in hasty review those instruments which separate medicine into ancient and modern. I refer to the clinical thermometer, the stethoscope, the ophthalmoscope, the laryngoscope, the microscope.

The stethoscope makes possible wellnigh exactitude of diagnosis in cardiac and pulmonary disorders. The clinical thermometer reduces fever to simplicity. The ophthalmoscope places the theory of inflammation on an immutable basis. The microscope, more than any other product of man's ingenuity, makes the etiology of disease both rational and scientific. On it, and it alone, rises that vast superstructure of recent times—the germ theory of disease and antiseptic treatment. The physician of the future must be as expert in the use of the microscope as is the physician of the present in the use of the stethoscope. The microscope reveals new worlds to science. Under its powerful lenses we behold a fertile field of microscopic vegetation, wonderfully diverse in structure, yet eloquent enough to call forth Linnæus's spirit from the shades and demand for her multitudinous genera botanical classification.

In the near future, when anatomy, chemistry and physiology shall have completed a few more biological revolutions, lingual inspection and radial palpation will be quite insufficient data for procedure against bacilli with quinia and calomel. Our empiricism will elide into rationalism, and our present diagnostic crudities will remain on the therapeutic nomenclature of the future as ancient names preserve their heroic derivation. Greater precision in diagnosticating disease will proportionately enhance prognosis. Future therapeutics is as yet a thing of embryonic magnitude. First must the whole field of empiric drugs be traversed in search of parasiticides. These latter, to be available, must meet two vital requirements: First, they must be innocuous to the fluids and solids of the body; second, they must devitalize germs and their spores or render the animal innocuous against their presence.

THE HYGIENE OF PHTHISIS.

A Paper read before the Philadelphia County Medical Society, January 11, 1888,

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For twenty-four hundred years, and probably during all preceding ages, some of the best minds the the world has ever produced have studied and coped with phthisis, and, in spite of the accumulated knowledge of all those years, about one-fifteenth[1] of the human family falls a victim to it yearly. There is not a clime in which it does not exist, nor a period of life in which it does not occur. The rich and poor, the civilized and uncivilized, become its prey. Since it cannot be cured, it is but reasonable to try to prevent it, and much has been done in this direction during the last century. What percentage of deaths was due to consumption in the days of Hippocrates cannot be known, but that it was large would appear from his words in speaking of a certain period, viz., that "consumption[2] was the most considerable of the diseases which then prevailed, and the only one which proved fatal to many persons." Writers upon the subject subsequent to Hippocrates are equally barren in statistics until about the seventeenth century. The first figures that I have met with are in a foot-note in Dr. Bateman's *Diseases of London*, in which a Dr. Heberden is quoted as saying "that[3] in 1669 the deaths from consumption were to the whole as one to about six and two-tenths; in 1749 one to about five and five-tenths; in 1799 one to about three and eight-tenths; in 1808 one to about three and six-tenths; and in 1818 one to about four and two-tenths." In the beginning of the present century Dr. Willan, in his statistics on the diseases of London, gives the percentage in his private practice as about one in three; and says that the proportion in the general mortality reports for the winter months at that time varied from one-third to one-half. In 1880 the percentage of deaths from phthisis in England was 9,141 in every 100,000, which indicates a marked improvement. This improvement is not due to a larger number of cures, but to a more successful prevention that follows in the wake of civilization.

It is scarcely disputed by any one at the present day that consumption is due to the bacillus tuberculosis. Concomitant with this doctrine is necessarily that of its contagiousness, and whoever accepts the one must accept the other. And why should it not be accepted? It is the reasonable doctrine, and one consistent with all modern teachings about disease. It is, moreover, the only doctrine that can explain all the phenomena of the disease without appealing to one's credulity, and upon the assumption of which we can ever hope to construct a barrier to the progress of the disease.

Heredity ought to be out of the question at the present day. It is an unreasonable theory, and at variance with all modern knowledge about the etiology of disease. Its complete eradication from the public mind is one of the first steps necessary in a sanitary crusade against phthisis. So long has it held sway, and so thoroughly has it been woven into our literature, into our ways of thinking, and even of acting, that it has actually become a remote cause of the disease. Men and women are daily dying victims of consumption because they have not the courage to escape its clutches. Their grandparents or parents, their uncles or aunts, or somebody in their families has died of the disease, and it is a foregone conclusion that some day, they will die of it too. They are tabooed by society as fore-ordained victims, they are refused life insurance on the slightest pretext, and are at a discount in the marriage market unless heavily endowed by purse or landed estate. Their lives are one continuous worry lest the disease overtake them, and yet they do nothing to avoid it, or the depressing influences which lead to

[1] In 1880 the percentage of deaths from phthisis in the United States was 12,059 in every 100,000, and in England 9,141 in every 100,000. Taking these two countries as a basis, we may assume that, the world over, about 7 per cent. of the deaths are due to phthisis.

[2] Francis Adams' translation, page 353.

[3] Historical Survey of the Diseases of London, page 22. Thomas Bateman.

it. If they do finally succumb to the disease, their education and that of the public have been factors in its production.

Somewhat akin and often confounded with heredity is the doctrine of predisposition. That some families are more apt to develop certain diseases than others is beyond dispute. What this predisposition consists in, and whether dependent upon the blood, the nerves, or tissues, is as yet one of the hidden secrets of nature. It is certain, however, that it can be transmitted for generations, and that, like complexion and features, it may go to only certain members of a family, may skip a generation or two and reappear, or may disappear entirely. It sometimes goes with one or the other sex, and sometimes accompanies certain complexions and features. Whilst it often exhausts itself by the laws of survival, it may also be generated *de novo* by the modes of life and habits of the parents. The tight-lacing girl, the pale-faced, dissipated young man, the overworked store girl and factory hand, the tea-drinking, bibbling servant girl, the drunken father, the half-starved, badly clothed mother—these are some of the progenitors of predispositions of phthisis.

So much in brief about the theories on the etiology of consumption. Their consideration has been necessary in order to study intelligibly the means for its prevention.

Both in theory and practice we find that consumption, though contagious, is but mildly so. This is, in my estimation, not so much due to the inefficiency of the bacillus tuberculosis as to the withstanding power of the lungs of most people. The bacillus tuberculosis never finds a nidus in a healthy lung—by healthy, I mean not only freedom from pathological change, but a strictly physiological condition in which every function is properly performed. Like the brain, I believe the lungs may be functionally abnormal, and yet there be no pathological change discoverable. There is a very close relationship between this functional abnormality of the lungs and the digestive apparatus, and, in a sequential way, the whole nutritive system. It is upon the stomach, then, almost as much as upon the lungs, that much depends in the prevention of phthisis. The stomach is usually the first traitor in the human economy. Through its derangement many diseases gain entrance into the body. When the stomach fails to perform its work, the lungs will soon do the same. A vicious circle is established, and they mutually derange each other. Malnutrition follows, and the lungs become a proper soil for the bacillus tuberculosis. Every care should therefore be taken to keep the stomach healthy, and to do this a sufficient and proper supply of food is necessary. Too much food is as injurious as too little, and improper food worse than either. When the stomach is filled with indigestible food, nutrition is not only withheld, but the stomach is unfitted for the proper performance of its work for some time thereafter.

It is generally in overfed and improperly fed people that we have what is called galloping consumption. Though apparently well nourished, their entire appearance is suggestive of too much foreign matter in the blood. It is from this class of people that the mortality list from consumption is kept so high in America, and it is chiefly the foreign element in our population which constitutes the class. The deaths from consumption in the United States are nearly twice as numerous among the foreign population and their children as among the children of the native born. In Rhode Island, according to the health reports of that State for 1880, one person in every 486 of native parentage dies of consumption, while one in every 286 of foreign parentage dies of the disease. According to the United States census reports for 1880, out of every 1,000,000 deaths, 242,842 males and 302,046 females die of consumption. This represents all nationalities and colors. Among the colored race every million deaths represent 248,179 males and 326,973 females as having died of consumption. Among people of Irish parentage 309,507 males and 375,636 females die of consumption to every million deaths; and among people of German parentage the victims of the disease number 249,498 males and 254,958 females to every million deaths. It will be seen that the largest percentage of deaths from the disease is among Irish immigrants and their children. This is usually ascribed to the change in climate. Ireland has a much damper climate than America, and therefore one better suited to the development of phthisis. The real cause for the larger mortality from consumption among foreigners, and especially among the Irish, is the change in diet. At home they have been accustomed to a plain, healthy diet, and when they come to this country they at once take to the varied heavy diet of Americans. Where they have eaten little meat at home, they eat it in profusion here. Where they have drank good milk and eaten vegetables at home, they drink teas and coffees and eat spiced foods here. They soon become thorough Americans in their stomachs, and even outdo the natives. The consequences are indigestion, malnutrition, tuberculosis. The German, though frequently pursuing a similar course, is often spared by his characteristic thrift and economy. He partakes more sparingly of the good things that come in his way, because of his anxiety to prepare for a rainy day. His fondness for beer, a beverage that he manages to secure wherever he goes, may likewise have some influence in shielding him against phthisis.

Sufficient fresh air, sufficient food, and sufficient rest and sleep are the watch-dogs of health, and where they are on the alert consumption can never enter. Bacilli tuberculosis may permeate the air, but they can do no harm. Could civilization reach such a stage of perfection as to make it possible for every human being to have all these, it would be in the power of everyone to avoid phthisis. Such a condition of things is, however, impracticable. It therefore becomes necessary not only to deprive the bacillus tuberculosis of its proper soil, but also to destroy the bacillus. This function belongs as well to the State as to the individual. Modern governments are beginning to appreciate the importance of preserving the health of their people, and are everywhere establishing health boards. As yet, however,

they do not go far enough. Medical science has grown beyond the mere art of prescribing remedies; it has become a science of protecting man against disease and enabling him to attain his three score and ten. As government exists for the good of society, it ought to avail itself more extensively of so powerful a means to its end. The medical profession should be represented in our government. There should be a *Department of Medicine*, as there is a Department of Agriculture, of Justice, of Finance, etc. Surely human lives are as valuable as those of dumb brutes, and we want protection as much against the invisible foes which threaten our health as the visible ones which threaten our hearths. Unfortunately, public sentiment has not yet been educated to appreciate sufficiently the importance and benefit of sanitary measures, to make such a thing practicable. Did such a department exist, and did physicians in good standing and with scientific attainments occasionally enter the field of practical politics, and allow themselves to be returned to city councils and State and National legislatures, sanitary science might shed its light upon legislation, and many existing hygienic evils be remedied; many social and commercial customs and practices which are daily generating predispositions to consumption by the thousands might be corrected. Plainer living would come through proper instruction upon the subject and the instillation of the necessary sentiment in our schools. Not only ought children to be taught what to eat and drink, but also how to prepare their food and what quantity they can take consistent with health. Nor should instruction upon the proper adaptation of food to the time of life be overlooked. Many children are already dyspeptic when their school days begin, and in their cases the benefit of instruction could only accrue to the second generation. The depressing influences of private vices in children and young people could often be averted by early instruction of the proper kind. Such instruction should, of course, come through the parents, but parents are themselves frequently devoid of the proper knowledge, hence the government might supply it to them by the free distribution of appropriate books. How many social and moral evils might be warded off were the proper knowledge brought to the thousands who would gladly avail themselves of it, were it within their reach!

Legislation might in a measure protect the weak against the oppression of the strong. One needs but visit the parts of large cities where the poor live, and note the crowded, filthy courts, alleys and tenement houses; or take a stroll through a badly ventilated factory or retail store in which the employés are compelled to work long hours in unhealthy positions, and with the most wretched accommodations for the ordinary demands of nature; or examine some of the articles of food and drink that are openly sold in shops and on the streets, to understand what could be done in the way of sanitary science by wise legislation. The remedying of such wrongs and oppressions would very much lessen the mortality from consumption by withdrawing the soil necessary for its development. But all this is mere speculation of what we may hope will take place in the future. For the present we must content ourselves with discussing the weapons against the bacillus tuberculosis, which governments can use as they are now constituted.

The usual methods employed by our boards of health for combating disease are isolation and disinfection. Against consumption, isolation if it were even practicable, would be both useless and cruel. It is a question in my mind whether the existence of the bacillus tuberculosis is solely for the destruction of human lungs! In view of the universality of phthisis, it is not entirely a matter of fancy to suppose that the parasitic life of the bacillus in man is incidental, and that it plays some useful rôle in the great chain of transition between organic and inorganic matter. It seems to be everywhere and to be wafted about by the air. Isolation could therefore not confine it, nor afford protection. The only benefit that could be derived from it, would be the withdrawal of the relatives of patients from an atmosphere saturated with the germs of the disease, and their protection against contamination by the sputa. This would be a poor return for the dreadful inhumanity of separating the poor victims for years from their relatives. The same results can moreover be attained without isolation by disinfection. With well equipped thorough boards of health and properly instructed laity, satisfactory protection could be secured to those who by family ties or otherwise are compelled to live in the same house with the afflicted. The house, and especially the room, in which the patient sleeps ought to be frequently disinfected with some suitable germicide, and particular care should be taken to disinfect the sputa. For the former purpose sulphur may be burnt or a spray of a strong solution of carbolic acid be used, and for the latter carbolic acid of corrosive sublimate solution be placed in the vessel that receives the sputa. To carry out these measures in practice, consumption would have to be placed upon the list of contagious diseases returnable to the board of health, and the present force of existing boards of health would have to be largely augmented. The beneficial results, however, would be ample compensation for the inconvenience and expense. That there would be a marked decrease in the mortality from phthisis I have not the slightest doubt. Better opportunities, too, would be afforded to study the disease, as more reliable reports would be made and fuller statistics be gathered.

Health boards should, moreover, help to disseminate proper knowledge upon the subject. If ignorance is the parent of vice, it is certainly the grandparent of disease. It is a matter of daily occurrence that people who have consumption, and who are constantly expectorating infectious matter, fill positions in which they must necessarily contaminate the clothing, food, and drink of others. There are consumptive tailors and dressmakers, consumptive cooks and waiters, consumptive candy-makers, consumptive bakers, consumptives indeed in every calling of life. These people do not sus-

pect for a moment that they are spreading the disease, and take no precaution against doing so. They are often poor people who have to work for their living, and who, as long as life remains in them, have to earn its support. They do not even know that they have consumption, or at least they persuade themselves that they have not got it. They expectorate on the public highways, in church, at the theatre, at their places of business or work—in short anywhere and everywhere that is convenient, and the sputa dry up and are carried into the lungs of others, or find their way into food and drink. First of all, people ought to be made thoroughly familiar with the infectiousness of the sputa, and ought to be taught how to disinfect them. This knowledge should come from the government through the boards of health. Physicians and public teachers can do much toward creating a proper sentiment, but they cannot convey the instructions in an authoritative an effective way. In the next place, no consumptive should be employed in any capacity in which he may contaminate the clothing, food, or drink of others. To obviate hardships in such cases, the government should make provision out of the public treasury for the maintenance of such people as we have to give up their means of livelihood for the public good. Whether this be done by pension or by offering an asylum must remain for political economists to decide. No hesitancy is felt in spending millions for the resentment of an insult to our national honor, or for some commercial advantage: Why should not something be expended in the protection of our people against the ravages of a disease which, in the United States, carries off nearly a hundred thousand people annually? Small remedies will avail nothing with so great an evil. Our government should act, and act with gigantic strides.

As regards individual effort to prevent the spread of consumption, it must necessarily be confined almost entirely to those who, by predisposition, are likely to develop it. They should not only lead strictly hygienic lives in every particular, but should avoid everything that might even remotely lead to the disease, and avail themselves of every weapon against it. The nearer they follow Nature in its dictates as to how to live, the better. They must not revel in excess, turn night into day, overload their stomachs, overtax their brains, strain their physical endurance, and play havoc with their constitutions generally, as their more favored brothers and sisters do with impunity. They must lead correct, orderly lives, and be ever on the alert that their physical condition may not fall below par. As regards the weapons to be used against the disease, it may be well to pass some of them in review.

Climate has always been looked upon as an important factor in the production and prevention of consumption. Its importance, however, seems to me to have been much exaggerated. A non-porous soil is undoubtedly a contributing agent to the production of consumption, but not more so than of many other diseases. Consumption occurs in every country and every climate on earth, being modified in prevalency by the various modes of life. Vicissitudes of climate have really little to do with the disease. Those people who are most exposed to the weather seldom die of consumption, whilst those whose lives keep them indoors are its most frequent victims. Women, for example, die much more frequently of the disease than men. Nor does warmth or cold or altitude exert much influence. The colored people, who live largely in the warmer portions of the United States, have a higher mortality rate from consumption than the white people, the majority of whom live in the colder portions. In short, consumption prevails everywhere, no matter what the climate, where people are compelled, by the demands of society, to crowd together and live much indoors. The practical lesson to be drawn from these facts is, that persons who are predisposed to consumption by reason of the lives of their forefathers, or the peculiar circumstances surrounding their childhood, ought to adopt a calling in life which keeps them out of doors and away from cities.

There is a popular belief that alcoholic drinks are powerful preventatives of consumption. This, like all popular beliefs and superstitions, has undoubtedly some truth for its foundation. But, as is usual with the bastard progeny of desire, this grain of truth has grown into such immense proportions as to have become the stumbling block of many. No one that has carefully studied consumption can have a doubt that their exists some relation betweeen its production and the non-assimilation of hydrocarbons. Very many cases of phthisis have traces of sugar in the urine, and probably all of them have indigestion of heat-producing food. These symptoms frequently exist for months before cough and discernible local congestion sets in. As beverages containing a small amount of alcohol present a most readily assimilating form of hydrocarbons, they no doubt, when properly used, buoy up the weakened system in its struggle against the bacillus tuberculosis, and often enable it to gain the mastery. But what is good in moderation is always hurtful in excess, and in this instance precipitates the very evil it might otherwise prevent. Excess of alcohol and the adulterating ingredients in alcoholic beverages derange the stomach, and thus by interfering with nutrition predispose to consumption. In this way a long life of hard drinking sometimes ends in phthisis.

A very noticeable fact in the mortality statistics of consumption is the predominance of females among its victims. This is in a measure due to the indoor life of women, but not altogether. The many accidents and diseases incidental to the physiological life of women greatly predispose to consumption. These are, however, nearly all of an avoidable character, and have their fountain-head in carelessness during the menstrual period and during the puerperium. Women should be taught from childhood that these are sacred epochs, and that during them nature demands rest and especial care. The Semitic six weeks' rest after childbirth is true to nature, and should be observed by every woman who becomes a mother. Lactation frequently predisposes to consumption, but usually in those cases which have made bad re-

coveries after confinement, and are in want of the proper food and care which are necessary for a nursing woman.

Pulmonary gymnastics are powerful weapons against phthisis, and should be especially used by those who are unable to extricate themselves from the unhygienic surroundings and circumstances in which their necessities have placed them. Though the use of a gymnasium is very desirable for practising these, it is not necessary. The principle involved is ventilating the unused air-cells, and any combination of forced respiratory movements that will thoroughly inflate the lungs will accomplish this. Gradually filling the lungs with air whilst retracting the shoulders and extending the chest or taking a deep inspiration whilst extending the arms above the head and expiring whilst placing them parallel with the body, are two simple exercises which do all that is necessary and can be taken without interfering with the most busy life or causing fatigue. A habit should be made of thus ventilating the unused portions of the lungs, and it should be done at times when the purest air can be secured. The most practical germicide that we as yet know of for the bacillus tuberculosis is fresh air, or, more correctly speaking, it furnishes the least favorable habitat for its development. A better oxygenation of the blood is, moreover, secured by such exercises, the circulation is stimulated, and, indirectly, the digestion and assimilation improved.

As regards the hygiene of phthisis, when the disease is once established, it is based upon the same principles as that for its prevention. Sufficient nourishing food, and sufficient fresh air, these are the *sine qua non*. The prime object in every case of phthisis should be to secure a good digestion and assimilation. Everything that is done should be done with this object in view. Good, nourishing and easily digested food should be taken in abundance, and every care taken that the stomach be not deranged by indiscretions in eating and drinking, or by overloading. As soon as the body begins to nourish, the lung trouble will improve. As an aid to digestion outdoor exercise is very important. Without it the system cannot be made to use up a large quantity of food. Inasmuch as warm climates offer greater inducements to keep invalids out of doors, and make bed-room ventilation a little more agreeable, they are highly commendable to consumptives; but they are by no means essential to their well-being. A cold climate will do just as well if the patient has the courage to endure the discomforts entailed by it. It is much better that a consumptive have home comforts in the worst climate in the world, than that he be compelled to undergo the tortures of boarding-house or fourth-class hotel life at a health resort. In all warm climates the houses are built for warm weather use, and no provision is made for the stray blizzard that occasionally comes along. Though the temperature may be very equable from day to day, there is always a marked variation between day and night. In consequence of the rapid radiation of heat the houses become cool and damp during the night, against which there is likewise no provision, except in first-class modern hotels. In many places suitable food is difficult to obtain even at the most extravagant prices. All in all, the average person who has consumption had better remain at home, unless his home is in a large city, and then he should go into the neighboring country, where he can secure home comforts and plenty of suitable food. Let him dress warm, take outdoor exercise whenever he can, eat plenty of light, nourishing food, take ample rest and sleep, and he will get along much better in his native heath than he would with small means in the most model consumption climate.

It is important that the entire body be warmly clad in cold weather. Either silk or woolen clothing ought to be worn next to the skin. The circulation should be kept equable throughout the entire body, hence the extremities ought never to be let get cold. When the feet get cold the lungs become congested. Rubbing the body with a coarse towel has a good effect in equalizing the circulation. The ancients recognized this fact, and laid stress on it. "Balneum alienum est," says Celsus. Sponge baths, if carefully taken, will do good. They should, however, be taken in a warm room, and followed by a rest.

Sea-voyages used to be highly recommended in the early days of medicine, and theoretically, at least, ought to be beneficial in the first stages of the disease. The ocean offers a pure atmosphere, and frequently the salt air stimulates appetite and improves digestion. In the advanced stages of the disease they are, however, impracticable, and should never be attempted.

Gypsy life, or traveling through the country by easy stages and camping out, is most beneficial to consumptives, even in advanced stages. The ancients had their patients carried from place to place in chairs. In the territories most remarkable cures are brought about by this mode of living. Persons unable to walk are hauled in wagons on improvised beds, and it is astonishing what a revivifying effect constant exposure in the open air has.

But, as said in the beginning of this paper, when consumption is once established it is rarely cured, and though much can be done to ameliorate the condition of the consumptive, the most important duty of the medical profession, at the present day, is to lend its aid in bringing about such a change in public and private hygiene as to give the disease less chance for development.

Civilization is the keystone on which the barrier to the progress of phthisis must be built; but it must be a high order of civilization, a civilization in which charity for our fellow-man is the guiding-star—which teaches not only how to live, but how to let others live—which banishes want from the earth, gives everybody sufficient breathing space, and removes the foot of monopoly from the neck of the workingman and the goad from his side; which will remove morbid ideas about dress, society, customs, and education, and banish all vice and excess from the world. So long as the "summum bonum" of man's existence is to live at ease, gratifying every desire, and tower head and shoulders above everybody else

importance; so long as one-half of the human race must be without the necessaries of life in order that the other half may revel in excess; so long as crowded tenement-houses must tower in the sky in order to let palaces spread out on the surface; so long as soulless corporations can drive man to do more than a whole day's work for half a day's pay, and under circumstances and surroundings which are in conflict with every rule of health; so long as the rich lead and the poor follow in health-ruining fashions and customs; so long as children have their minds made morbid and their bodies ill-developed by school-cramming processes; so long, indeed, will consumption continue to be epidemic, no matter what progress scientific medicine may make.

MEDICAL PROGRESS.

THE CARLSBAD "CURE."—DOCENS DR. JAWORSKI, of Cracow, gives in the *Przeglad Lekarski*, under the above title, some interesting details respecting the influence of the springs of Carlsbad on diseases of the stomach. The author first emphasizes the fact that the majority of gastric disorders are due to an increased activity of digestion, and not, as had long been thought, to impairment of the secreting power of the gastric mucous membrane of the stomach, or to complete destruction of the digestive action. He refers to the publications of Reichmann in 1882, in which increased secretion of the gastric juice was said to be the cause of the disease, and also refers to researches on the disease of the stomach by Jaworski, Gluzinski, and others, which illustrated this statement by several facts. Further investigations had shown that, in ulcerations of the stomach, hydrochloric acid was increased, and that hæmatemesis, as a result of *ulcus ventriculi*, was observed when the secretion of hydrochloric acid had risen to the highest point. The diminution of the secreting power of the stomach greatly lessened the danger of gastric ulcer. The springs of Carlsbad had been said to stimulate the secretion of the stomach, and to quicken the digestion. Dr. Jaworski, however, observed that, although the water and the dried salts of Carlsbad increased the secretion of the gastric mucous membrane when given in small doses, when used in large doses, or when taken for a long time, they lessened the secretion both of acids and pepsine, so that, after prolonged use of these remedies, the secretion was completely arrested without any great disturbances in the mechanism of the stomach. Out of 232 cases which Dr. Jaworski had examined, in 156 he found the cause of the gastric disorder to be increased secretion of hydrochloric acid. The good effect of the springs of Carlsbad in almost all diseases of the stomach was thus explained. With reference to the indications for the use of the waters, Dr. Jaworski, as the result of numerous internal examinations of the stomach, distinguished the following stages and forms of gastric diseases. The use of the springs of Carlsbad is indicated: 1. In increased secretion of the gastric acids during the time of digestion only *(hypersecretia digestiva transitoria)*. In such cases the use of the Carlsbad waters lessens the sensibility of the mucous membrane of the stomach. 2. In increased secretion of the gastric acids when the stomach is empty *(hypersecretia hyperacida continua simplex)*. When the Carlsbad waters are used in such cases in small quantities, not only the normal but the functional and structural conditions were re-established. 3. (*a*) In the third stage, which had been called by Jaworski *catarrhus acidus v. gastrorhœa hyperacida continua*, where the secretion of hydrochloric acid had attained the highest degree, so that the acidity of the non-digesting stomach was scarcely less than it is at the period of active digestion. In these cases, disturbances of the chemismus of digestion and anatomical changes of the glandular apparatus, and even in the muscular layer of the stomach, were already present. The use of the Carlsbad water in large doses and for a long time, will diminish the acid secretion to a high degree, and produce a considerable improvement in the disease; (*b*) As, according to all the experimental results which had been hitherto obtained, the round ulcer of the stomach *(ulcus ventriculi rotundum)* was attended with the acid catarrh just mentioned, and was probably produced by it, the favorable effect of Carlsbad water in cases of gastric ulcer was satisfactorily accounted for. 4. Besides the continual increase of the acid secretion, there was still another abnormal and periodic hypersecretion of hydrochloric acid of nervous origin. The difference between these forms consisted in this, that in the former the increased acidity was met with at each internal examination, whereas in the nervous form the increased acidity was only occasionally observed. In this latter the Carlsbad water might be advantageously employed. 5. In certain neuroses, sensory *(hyperæsthesia, cardialgia)* as well as motory *(vomitus nervosus)*, Carlsbad water is not less useful. Dr. Jaworski does not remember any single case in which the water had been vomited, and this was also true of cases in which no other liquids, and even no medicament, could be retained in the stomach. In such cases the good result was to be ascribed to the mild effect of the warm and diluted alkaline solution and the free carbonic acid on the mucous membrane of the stomach. The use of the waters of Carlsbad is contra-indicated in: 1. The fourth stage of the secretory debility *(insufficientia secretionis acidæ)*, when the acid secretion was insufficient even during digestion. 2. The last stage, which had been called *catarrhus mucosus*, when hydrochloric acid and sometimes even pepsine was quite absent even during digestion. Even in these cases it was worth trying whether the glandular apparatus could not be irritated to secretion by small quantities of Carlsbad water. Dr. Jaworski further points out that the effect of Carlsbad water was not only a symptomatic one, as believed by many, that it not only neutralized the hyper-acidity of the gastric contents, but that it also produced permanent anatomical and functional changes in the glandular apparatus, by which the power of secreting hydrochloric acid was diminished, and thus a per-

manent benefit obtained. Whether Carlsbad cure was indicated in a given case should be learned from the internal examination of the stomach. During the time the water was used the progress of the case must be determined from time to time by internal examinations. It had been proved by several experiments that a too protracted use of the Carlsbad water and salt finally led to complete loss of power of secreting hydrochloric acid. On the other hand, it was a known fact that there was no strict causal connection between the subjective disturbances and the objective changes in the stomach, so that no sure conclusion could be drawn from the former as to the condition of the stomach. It was therefore absolutely necessary to examine the contents of the stomach chemically from time to time in order to obtain a true idea as to its secreting power, so that it might not be completely destroyed. It should also be borne in mind that atrophy of the glandular apparatus predisposed to the development of neoplasms in the stomach. Korczynski and Jaworski had shown (*Klinische Befunde bei Ulcus Carcinoma und Magenblutungen*, Berlin, 1887) by statistics that malignant neoplasms of the stomach coincided with the above-mentioned condition of mucous catarrh, and that there was probably a more or less close causal relation between them.—*British Medical Journal*, January 14, 1888.

BLIND SIXTY YEARS; IRIDECTOMY; RESTORED TO SIGHT; GOOD COLOR PERCEPTION.—DR. DAVID MCKEOWN reports the following case:

Edward C., æt. 63, a fiddler, had, when I saw him in August, 1883, been blind upwards of sixty years. When 1½ year old he lost the sight of both eyes from an attack of small-pox. The right eye had not perception of light, but the projection of the left was good. There was a dense central opacity extending into the upper half of the left cornea, and the iris was adherent all round to the margin of the opacity. I performed an iridectomy opposite the transparent cornea above, the only place available for such a purpose. I showed the patient in the Ophthalmological Section at the meeting of the British Medical Association held in Belfast in 1884, *i. e.*, about a year after operation. The condition then was: The cornea opposite the artificial pupil was a little milky; the use of the eye was attended with some difficulty—the pupil being above, and the eye before operation having had a somewhat upward position, a considerable effort on the part of the inferior rectus was required (a tenotomy of the superior rectus, alone or combined with the advancement of the inferior rectus, would doubtless be advantageous). The presence or absence of the lens could not be determined; the result of a trial with glasses was practically *nil;* the vision which he had gained by the operation enabled him, when in the streets, to dispense with the stick which, before the operation, was a necessity; he could count objects of 1½ line in diameter when about a line distant from each other; he recognized comparatively small differences in size. His color-perception was remarkably good; he distinguished not only the well-defined colors, but also different shades of the same color, sometimes even when these differences were not very marked. His color education was very rapid. When I first spoke to him on the subject I found that he was pretty familiar with green, blue and red. Some patients in hospital had given him instruction. He came to know green by examining a quilt of that color which was upon his bed, blue by inspecting a blue and white striped shirt which he wore, and red from seeing a lining of that color in a hat. He afterwards came to know yellow, brown, etc., from having these colors shown to him a few times. The coins (involving shape, size and color) were soon mastered.

This case is probably unique, seeing the early age (1½ year) at which vision was lost, the very prolonged period (upwards of sixty years) of blindness, and the extremely gratifying results of the operation; and it has an important bearing upon some interesting questions regarding the conditions under which the functions of the retina may be lost or preserved, and the recognition of form, estimation of distance, etc.—*The Lancet*, January 7, 1888.

EVERTED DORSAL DISLOCATION OF THE HIP.—At the meeting of the New York Surgical Society, on Dec. 28, DR. LEWIS STIMSON reported a case of this rare injury, which occurred in a woman aged 55, who was knocked down by a horse-car. The (right) injured lower extremity was parallel with the other and with the long axis of the trunk, and was so far everted that the foot rested on its outer border as the patient lay in bed. The limb could be adducted and flexed, but could not be abducted or rotated inward. There was shortening of an inch and three-quarters. The trochanter was prominent, and was elevated; the head of the femur could be distinctly felt below and rather to the outer side of the anterior superior spinous process of the ilium. By flexing and abducting the limb, and then rotating it inward, the dislocation was easily transformed into the common dorsal variety. On increasing the flexion to right angle, abducting and rotating outward while lifting, the original form was reproduced. After two or three such failures reduction was made with a distinct sound by maintaining the inward rotation, and after flexion to a right angle, and slight abduction, lifting the limb steadily and with considerable force. During the night following reduction the dislocation recurred; it was again reduced, and the limb was kept in a position of abduction by traction with a five-pound weight. It again recurred, was reduced, and recurred; finally the bone was kept in place by traction with a fifteen-pound weight, a broad bandage being drawn tightly around both hips. No crepitus was felt during the many manipulations, and each reduction was accompanied by a distinctly audible snap. The facility with which recurrence took place suggested in the absence of fracture of the acetabulum, that a portion of the capsule remained interposed between the articular surfaces. The patient had in addition to the dislocation, a fracture of the humerus and of two ribs, a laceration of the perinæum, and an old cavity in each lung.—*New York Medical Journal*, January 21, 1888.

ANTISEPTIC LOZENGES IN LUNG DISEASES.—DR. DURANT describes the effect of Dr. Albin Meunier's antiseptic lozenges in the treatment of pulmonary tuberculosis and other affections of the respiratory organs. The discovery of the pathogenic microbe of these affections suggested that they might be completely cured if an efficient agent could be found to destroy the microbe, or render the organism impervious to its attacks. The antiseptic treatment of affections of the respiratory organs was a method in accordance with the most recent scientific theories; its practical application was, however, rendered almost impossible for the following reason. It would only prove effectual if the antiseptic remedies were administered in large quantities; these in strong doses exercised an injurious and even dangerous action upon the cells of the organism. Dr. Albin Meunier has discovered a means by which antiseptic remedies which destroy the pathogenic microbe of pulmonary phthisis and other broncho-pulmonary affections may be administered in active doses without any danger whatever to the organism. Dr. Meunier's antiseptic lozenges are composed of carbolic acid, eucalyptol, iodoform, creasote, menthol, etc.; 1 to 3 lozenges are given at each meal. The beneficial effects of volatile essences in the treatment of broncho-pulmonary affections have been demonstrated by numerous observations. They arrest the evolution of the bacillus, modify the character of the secretions, and diminish the fits of coughing. Dr. Meunier's lozenges are rapidly absorbed, and the organism is quickly and thoroughly impregnated with the antiseptic substances. Their odor is observed in the breath, in the urine and perspiration of the patient shortly after the lozenges have been swallowed. Owing to the purity of the substances employed, this treatment never disturbs the digestion. The action is prompt and effectual; tonics and strengthening medicines may be combined with this treatment. Under it the patients increase in weight, diarrhœa and night-sweats disappear, and the local symptoms are modified.—*L'Union Médicale*, December 11, 1887.

GUAIACOL AS A SUBSTITUTE FOR CREASOTE IN PHTHISIS.—DR. H. SAHLI, of Berne, writing on the treatment of phthisis by creasote, remarks that creasote, by which is meant that prepared from the tar obtained by the destructive distillation of beech wood, is a complex substance, the constituents of which vary considerably in different samples, and that it is surely desirable to use for therapeutical purposes some simple substance of known composition. He finds that in the beech creasote, as prescribed in the Swiss Pharmacopœia, the largest constituent is guaiacol, the methyl ether of pyro-catechin, $OH.C_6H_4.OCH_3$, which constitutes from 60 to 90 per cent. of the whole, the rest being chiefly made up of creasol, the mono-methyl ether of homo pyro-catechin, $OH.C_6H_3[CH_3].OCH_3$. Guaiacol being the chief constituent of creasote, Dr. Sahli prescribed it in cases of phthisis, and found that it had an excellent effect in moderating the cough, making expectoration easier, frequently diminishing the secretion, and improving the patients's appetite and general condition. Some who were confined to bed and suffering from a considerable degree of pyrexia were unable to retain the medicine, and vomited it. In some cases, too, it brought on diarrhœa. On the whole, however, Dr. Sahli was well satisfied with the guaiacol as a substitute for creasote. It is a colorless highly refracting liquid, soluble in alcohol, ether, and fat oils, but only slightly so in water. The alcoholic solution gives with perchloride of iron an emerald green coloration. The taste and odor of guaiacol are more agreeable than those of creasote. As solutions of guaiacol deposit resinous substances when exposed to light, they should be kept in colored glass bottles. One or two parts of guaiacol may be dissolved in 180 parts of water and 20 of spirit. One or two teaspoonfuls of this may be ordered in a glass of water two or three times a day after meals, or the guaiacol may be dissolved in cod-liver oil, which almost completely disguises its smell. In this way larger doses can be taken than when the solution in water is prescribed. The price of guaiacol does not seem to be very much higher than that of creasote. —*Lancet*, Dec. 24, 1887.

TREPHINING IN MENINGEAL HÆMORRHAGE.—A female patient, aged 26, was admitted under the care of MR. CROFT, in St. Thomas' Hospital, about midnight on Dec. 11, in a semi-comatose condition. She was supposed to have been knocked down and kicked by a horse. There was a scalp wound, not leading down to the bone, behind and below the left parietal eminence. There was no evidence of fracture. During the night she passed into a state of absolute coma, and in the morning had complete paralysis of the right arm and leg, but not of the face. Mr. Croft trephined in the situation of the wound, removing about two ounces and a half of somewhat granular clot, which was spread out for some distance between the dura mater and the bone. The hæmorrhage was from some vessels into the dura mater (probably posterior branches of the middle meningeal), and could only be arrested by means of pressure. About six hours later the power of movement returned in the right side, and her condition gradually improved. She spoke for the first time after the injury on the 13th. Although not yet recovered, she is still restless at times, and impatient of control; there is no paralysis, the wound is quite aseptic and healing, and the improvement continous. A severe contusion of the groin was, however, followed by sloughing and cellulitis, for which incisions were required.—*Lancet*, December 24, 1887.

ANTIPYRIN AS A UTERINE SEDATIVE.—M. H. CHOUPPE has already called attention to the good effects of antipyrin in uterine pains after parturition or in dysmenorrhœa. In proof of this he relates the following case: A woman, æt. 35, was suffering from a large myoma situated in the posterior wall of the uterus, accompanied by copious hæmorrhage, which reappeared after menstruation. Ergot checked the hæmorrhage, but caused such severe uterine pains that it had to be discontinued. Large doses of morphine were administered; these caused the pains to

disappear, but at the same time the uterine contraction was relaxed and hæmorrhage reappeared. Ergot was again administered with similar results. The attacks of uterine pain lasted two or three hours. M. Chouppe then had recourse to antipyrin. An injection, containing 30 grains of antipyrin, was administered. At the end of twenty minutes the pains disappeared. M. Chouppe then tried the following experiment: An injection of antipyrin was given half an hour before the dose of ergot. The patient experienced no pain, although there was active uterine contraction; hæmorrhage was arrested. M. Chouppe concludes that antipyrin relieves the pain caused by uterine contraction which is produced by ergot without diminishing the contraction. He believes that it acts upon the spinal cord, and might be administered with advantage during parturition to women of irritable temperament.—*British Medical Journal*, December 17, 1887.

EXTIRPATION OF THE SCAPULA; REPRODUCTION OF BONE.—A. CECI reports this case. The patient had a soft chancre and inflammatory phimosis and recent gonorrhœal stricture. Five days after circumcision he was attacked with acute osteomyelitis of the left scapula, on account of which the bone was entirely extirpated about a month after the beginning of the disease. An L incision was made, the angle being on the collum scapulæ, the short limb along the spine. The operation was then made subperiosteal. Recovery was rapid.

This makes a total of 47 total extirpations of the scapula; and of 45 cases in which the results are known 9, or 20 per cent. have died. Ceci and other authors draw the following conclusions: The results of the operation depend upon its being performed subperiosteally, upon the age and strength of the patient, and upon the manner in which the after treatment is carried out. It is very necessary to make an angular incision along the spinous process and the inner border of the scapula; the loosening-up of the periosteum should begin on the dorsal surface, and then the acromion process, the coracoid and glenoid should be freed. The portions of the deltoid muscle must be united by suture. The arm must be kept in position by a special bandage. Passive motion and faradisation should be begun early and during ossification.

Ten months before his last operation Ceci performed total extirpation of the scapula on a young scrofulous girl, 12 years of age, for caries of the subscapula fossa and coracoid process, but he was unable to control the fungous granulations in several fistulous tracts. The incision was made atypical on account of the fistulæ, but the profuse granulations hindered regeneration. The patient finally died of multiple caries and amyloid liver. — *Centralbl. f. Chirurgie*, No. 51, 1887.

BENZOATE OF SODA IN URÆMIA.—Starting from Cohnheim's theory of uræmia and from the fact that benzoate of soda inhibits the formation of urea within the system, Dr. A. S. Partzevsky, of the Basmannaia Infirmary for Laborers, in Moscow, administered benzoate of soda (*Meditzinskoïe Obozrenïe*, No. 5, 1887, p. 508) in ten cases of uræmia, in seven of which the patients were suffering from parenchymatous, and in three from interstitial nephritis. The drug was given every hour, in daily doses varying between 1 and 2 drachms. It was given either in a solution or in wafers, in capsules, and, where the internal administration was impossible, in enemata. Nine patients recovered, one died. Analysis of the cases has led Dr. Partzevsky to the conclusion that benzoate of soda cuts short uræmic attacks, the convulsive phenomena gradually disappearing and giving place to deep sleep. The latter in "a majority of cases, terminates by passing into full consciousness." Given on the the first appearance of symptoms (headache, sickness, dilation of pupils), the salt may prevent any further development of the fit. Albuminuria mostly disappears altogether.

STRYCHNINE IN ALCOHOLISM.—The good results obtained from strychnine in dipsomania by N. M. Popoff, V. A. Manassein, Partzevsky, Tolvinsky, and Zavadsky, have induced Dr. S. Jaroshevsky (*Meditzinskoïe Obozrenïe*, No. 4, 1887, p. 332) to undertake an experimental inquiry into the antagonism between the alkaloid and alcohol. From experiments made on dogs Dr. Jaroshevsky feels justified in drawing the following conclusions: 1. Strychnine undoubtedly neutralizes the intoxicating and narcotic effects of alcohol. 2. It enables large quantities of alcohol to be taken for a considerable stretch of time without causing the usual organic lesions which follow the use of alcohol alone. 3. There are, however, limits beyond which the alkaloid itself becomes injurious to the organism. 4. Therapeutically, strychnine should be used in all forms of alcoholism. 5. It may be regarded as a powerful prophylactic against alcoholism.

ACETO-TARTRATE OF ALUMINUM, THE NEW ANTISEPTIC.—This substance that ATHENSTALDT recommends as an antiseptic, is prepared by mixing a 5:100 solution of acetate of ammonium and a 2:100 solution of tartaric acid, the double salt formed being obtained by evaporation. Aceto-tartrate of aluminum is a brilliant, colorless substance resembling gum arabic. It dissolves readily in water, has the odor of acetic acid, and has an acid, slightly astringent, but not disagreeable taste. It is soluble in equal parts of water, and the solution remains clear when heated, but is precipitated by alcohol. It becomes less soluble when exposed to the air on account of the loss of the acetic acid radicle of the double salt Athenstaldt recommends it as a harmless antiseptic.—*Journal de Médecine*, Dec. 18, 1887.

ANTIPYRIN IN SEA-SICKNESS.—In the *Gazette Hebdomadaire* of Dec. 2, 1887, DUPUY reports that he has administered antipyrin on the voyage between Havre to Buenos Ayres. The dose generally found useful was grm 1.5, and its effect was manifested in about ten minutes. It was never necessary to give more than grm. 3 to give relief in about an hour. In a few cases in which the drug was vomited a hypodermatic injection of grm. 1 was efficacious.

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THE NECESSITY OF NATIONAL CONTROL OF MARITIME QUARANTINE.

In October, 1887, the College of Physicians of Philadelphia appointed a special committee consisting of Drs. J. C. Wilson, E. O. Shakespeare, and R. A. Cleeman, to examine and report upon the condition and defects of the existing principal quarantine stations on our extended seaboard. A few weeks later the committee made an interesting and important report, which was published widely through the press, including many medical journals. The College of Physicians accepted the report and continued the committee, with instructions to issue an address asking the coöperation of all the medical societies and organizations in an earnest effort to induce the present Congress to adopt such a law as will place the whole subject of maritime quarantine and sanitary interests under the control of the General Government. We have just received a copy of the address issued by this committee, making twenty-two printed pages. The fundamental propositions presented in the address may be briefly stated in nearly the words of the committee as follows: "*a.* The present methods of independent quarantine provided and regulated by seaboard States or cities, are essentially defective and insufficient for the exclusion from the United States of the diseases against which quarantine is directed. *b.* It is impossible adequately to protect the public health of the country against the importation of epidemic diseases by independent local maritime quarantine establishments. *c.* A National organization would secure advantages not attainable by independent local quarantine establishments, however complete," and is therefore necessary for the public safety. "*d.* The organization of a National maritime quarantine system in the United States should require: 1. That the whole matter be placed under an appropriate department of the General Government, with a central bureau of control established at Washington. 2. A sufficient corps of medical officers and assistants, with nurses, sanitary police, laundrymen, engineers, and officers and crews for boarding tugs, organized at every station. 3. The erection of necessary hospital and other buildings, wharves, disinfecting apparatus, wash-houses, latrines, etc., in suitable localities, when possible on islands at or near the entrances to harbors and at some distance from the main channel. 4. These stations should be organized and fully equipped at every port of entry of the coast, in such a way as to meet the requirements of each port in the measure of its commerce and immigration, and the special diseases to which it is most exposed. 5. The cost of the establishment and maintenance of the National Maritime Quarantine should be provided for by appropriations from the National treasury, and not from fees exacted from vessels."

These several propositions are illustrated and sustained by appropriate facts and arguments, in detail, by the Committee. The plain direct propositions, however, are sufficient to give our readers a correct understanding of the movement that has been inaugurated by the College of Physicians, of Philadelphia, through its special committee, and for the support of which their active coöperation is solicited. The subject is one of very great importance, and should receive the early and most deliberate attention of the profession without delay.

REMOVAL OF THE UTERINE APPENDAGES.

On Dec. 28, DR. HOWARD A. KELLY read a paper before the Philadelphia Co. Medical Society entitled "Removal of the Uterine Appendages for Disease in which Pain is a prominent Symptom"—possibly the last gynecological paper of the year, and certainly one of the best. It is not a paper of references and quotations, but one written from personal experience, the opinion of the writer in regard to the class of cases suitable for operation, the results to be expected from operation, and in regard to the operation upon neurotic cases pure and simple, conforming closely to that expressed by Hegar in his well-known monograph, but differing widely from the opinions of many so-called authorities in this

field, and still more widely from many views, current in the profession, as to the indications for and against operation, and as to the certainty and permanency and value of the results obtained by operation.

It is both important and convenient to make the symptom *Pain* a characteristic factor in the cases under consideration, since the patients usually apply for relief from that symptom chiefly if not alone; and they are willing to and do suffer "all things of many physicians" in order to get relief. And while we emphasize this symptom, we exclude the cases in which size is a characteristic, and are confronted by a large group of mixed pelvic diseases less in size, but not less dangerous; causing more suffering; more certainly undermining the health; and not less important than large fibroids, dermoid or ovarian cystoma, except as to cubic volume. Of the diseases under consideration, common are ovaries enlarged by cirrhosis, ovaries with extensive follicular degeneration, hæmorrhagic ovaries, ovaries containing pus sacs, neuralgic ovaries, ovaries involved in a withering of the pelvic peritoneum with the tubes, and tubo-ovarian disease with co-existing hydro-, pyo-, or hæmato-salpinx, which names signify an accident of the disease—they may be absent and the disease still exist. A prominent factor in causing this pelvic distress, especially aggravated at the menstrual period, is, thinks the author, large varicose veins in the broad ligaments.

It would be better, thinks Dr. Kelly, if "pain, *per se*, were never considered a sufficient indication for operation; or, at the worst only those cases operated upon in which the most prolonged and painstaking care had failed to relieve, and where the intensity of the suffering must always seriously interfere with the capacity of the patient to enjoy life." It would be better for all such cases if they first underwent a prolonged treatment at the hands of the neurologists. A host of cases of neuralgic ovaries that have been sacrificed by the gynecologist would have been thus cured, and many cases that have been operated upon and not relieved, would at least have been spared the ordeal of operation, and the too frequent reproach thus be spared the gynecologist, that he recommended the removal of a woman's ovaries, but she declined and a nerve specialist afterward cured her, and, to make the reflection worse, she has since borne a child. As factors in the diagnosis of such cases Dr. Kelly mentions the character of the pain, the facies of the patient and a peculiar sense of boggy fulness to the vaginal finger. Constipation seems to be one factor in the causation, but while relieving constipation helps the condition, he has not found that it cures any case of long standing. Sequelæ of pregnancy may cause it. He rejects removal of tubes and ovaries as in any way assisting a cure. In one case sent me by one of the most prominent neurologists in the country last spring, the patient is but little improved, although one of the veins tied and cut off was a half-centimetre in diameter. As nothing else seems to do more than mitigate this condition, I propose yet to open the abdomen and simply tie the distended tortuous veins at either end aspirating then, if necessary, and if the patient is no better she will at least be no worse off. There is another class, usually classed among the neuralgic cases, and defined by Mitchell as cases in which the expectancy and concentration of the attention on a normal function leads it to simulate disease in the expression of pain. "These cases if operated upon rarely reflect credit upon the operator, and should ever be considered more in the province of the neurologist than of the gynecologist. I have never operated on a case of this sort, and never expect to." There is also a small group of cases in which general nervous phenomena seem to subside after a time into a local disease.

As to the status of the operation, then, the removal of *diseased* appendages, small in size, but in which pain is a prominent symptom, Dr. Kelly concludes that: 1. It is scientific, because it deals with *diseased organs*. 2. It does more than almost any other single surgical procedure in relieving a large number of cases whose sufferings have been almost unbearable. 3. In *properly* selected cases the percentage of recoveries is 95 per cent., and improving, and the percentage of cures equally large. 4. Unless we adopt the yardstick as our measure of disease, the indications for operative interference are often more urgent than in the case of most cystoma coming under our observation. 5. All the steps of the operation, the technique of the procedure, have now been so widely appreciated, that it may be described as a *safe* operation.

Dr. Kelly's standard, in regard to operating is stated as follows: Are the organs *diseased?* Will their removal cure the patient entirely, or will it relieve a large part of the suffering and at least make life more bearable. A result *absolutely* good is always to be desired; but a result *relatively* good is something to be very thankful for, and grasped in many cases. Not only the general profession, but gynecologists themselves are apt to place all hope upon the operation, like a throw of dice, and to for-

get that it is often more rational to handle the cases from the beginning of their treatment to the end, in such a manner that the operation is viewed by doctor and patient as simply a *step*, at times the only one, again the most important step, or occasionally but one in the fight, in the treatment and progress toward cure. Cases often require after-treatment, and some of his cases have only left entirely well after weeks more of work. His operation removed the focus of the disease, without which he could never have made any progress, but the after treatment dealt with the disease products that may have been accumulating for years.

THE DUTY ON MEDICAL SUPPLIES.

At the annual meeting of the Georgia Medical Society, held on January 3, 1888, the following resolution was unanimously adopted:

Resolved, That the Corresponding Secretary enter into correspondence with other State and local Medical Societies, with the view to induce them to act in concert with us in an effort to influence Congress to remove the *Import Duty* from all medical and surgical supplies, instruments, and appliances.

Certainly all will agree that "a feeling of humanity suggests that all medical and surgical supplies, instruments, and appliances, including those used in the diagnosis as well as in the treatment of diseases, should be furnished to those needing them at the lowest possible price." Could our Government be persuaded to remove this duty, the public as well as physicians would be the gainers. It is a fact that a large proportion of the medical instruments and appliances offered to the medical profession is of poor quality, and it is just as much a fact that good instruments cost too much. For these reasons many physicians are prevented from supplying themselves with even a moiety of the instruments required for general practice. It is a well-known fact that the majority of English and German made medical instruments and supplies are *better* than those made in America, and it is just as well known that such supplies can be bought at a much lower price abroad than in this country. We need not stop to inquire into the causes of this further than to say that the chief cause is the import duty on such supplies, by which the makers of such supplies in this country have the physicians and the public at their mercy. Nor do we purpose writing on "free trade" or "protection," further than to say that the best protection a country can give its citizens is to take measures to protect their health.

If foreign made medical supplies were placed on the free list, the quality and prices of those foreign articles would compel our home makers to lower their prices and improve the quality of their products—there would then be no market for poor instruments.

The Georgia Medical Association has acted wisely in bringing this matter directly to the individual members of the profession. The only people that can possibly be hurt by the carrying out of the suggestion are the manufacturers; but even if they are injured, it is demanded for the greatest good of the greatest number.

It is to be regretted that, in the circulars sent out by the Georgia Medical Society, no special or even indirect mention is made of foreign books printed in foreign languages, bound volumes of foreign periodicals, and books by foreign authors printed in their own countries, or in the countries of which they are citizens. As the case now stands a U. S. Customhouse officer, knowing nothing of the value of books, appraises imported books by their weight, or by the number of illustrations in them, or by the amount of gilt on them. As the matter is now, the physician in this country pays no duty on the current numbers of an unbound periodical; but if he wishes to complete a file by buying bound volumes of the periodical he must pay duty on them. In what way is the American printer or publisher protected or benefited by an import duty on French, German or Russian text-books, or books of any other kind? and how much money is it in his pocket when the Government collects duty on a bound volume of Transactions of a British Society? And by what mental process did any set of men ever hit upon the idea that half a dozen numbers of a foreign bimonthly journal, unbound, do not constitute a book, but that the same numbers glued together and covered with a square foot of pasteboard *do* constitute a book? Wherein is the justice of charging a physician from forty to sixty cents import duty on each dollar book that he buys from abroad, and allowing a brainless fop to import more than half a hundred "London-made" trousers free of duty?

There is another way in which this unjust duty affects the profession: Some unscrupulous publisher imports one copy of an English book, makes a cheap and mutilated reprint of it, and sells it to the profession as the genuine article. By doing this he palms off on the American physician a spurious article, and robs the English author of just compensation for his work. If the American publishers wish for protection, they might have it in the shape of a prohibitory duty on foreign-printed books by American authors—the same law that England has had for many years.

We speak more particularly of medical books. How many publishers of medical books are there in this country? Not a dozen worthy of the name. Not all of these are in favor of an import duty on books, we believe. Is it just that for so limited a number every physician in the country, and through them sick people, should be made to suffer in pocket, and for want of books that they cannot afford to buy at the present extortionate prices?

SOCIETY PROCEEDINGS.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday, December 8, 1887.

THE PRESIDENT, T. M. DRYSDALE, M.D., IN THE CHAIR.

DR. W. GOODELL read a paper on

INTRA-LIGAMENTARY CYST.

In it he stated that the three abdominal cysts most commonly met with are the true ovarian, the common parovarian and the intra-ligamentary cysts.

The ovarian is typically multilocular, has a pedicle, and starts from the stroma of the ovary, where the ovary is found. It always grows into the peritoneal cavity, and is probably due to a follicular degeneration of the ovaries—which explains its multilocular feature.

The common variety of so-called parovarian cyst is typically unilocular, usually unadherent and thin-walled. It does not bear inside papillary growths, but it contains a clear limpid fluid. It is wholly extraovarian, the corresponding ovary being found either pendant apart from it or else plastered upon its walls, but yet wholly distinct. The lining membrane of this cyst being identical with that of the tubes of the parovarium, its origin is referred by pathologists to this fœtal relic. To account for its single chamber, it is supposed to originate from some detached loop of the tubes; or, especially, from a little cyst always found at the outer end of the horizontal tube of the parovarium.

The third variety of cyst is called the intra-ligamentary, sessile or encapsulated cyst. From its site between the folds of the broad ligament, from its papillary ingrowths and its quasi-malignant nature, and also from the difficulties attending its extirpation, it deserves special description and needs a special treatment.

There are two kinds of cysts encapsulated by the broad ligament: The one is a unilocular, papillomatous cyst; the other a multilocular papillomatous cyst. Both contain clear fluid. The former is probably a cystic degeneration of one of the imbedded vertical tubes of the parovarium, which represents the rudimentary sexual remnants of the Wolffian body. It is usually more encapsulated by the broad ligament than the multilocular variety, but the connective tissue is looser and less vascular.

The multilocular intra-ligamentary cyst has but a few daughter cysts, each cyst distended by a clear limpid fluid and containing exuberant firm papillomatous growths. Its proneness to ingraft itself upon migratory organs, and its firm and vascular union to its capsule of broad ligament, make its removal far more difficult than that of the unilocular variety. Its origin is questionable, although the presence of papular ingrowths would point to fœtal tubular relics as the source. Some attribute it to cystic degeneration of supplemental ovarian tissue often found imbedded in the broad ligament at a distance from the ovary. Others attribute it to the tubular relics in the naro-öphoron. Lastly, Doron attributes it to stray fœtal relics in the hilum of the ovary. As this theory met every characteristic of this tumor, viz.: the papillary ingrowth, its multilocular character and its investment by the broad ligament, Dr. Goodell was inclined to accept it. The tumor did not develop into the peritoneal cavity but, growing inwards and into the broad ligament, it parted asunder the true peritoneal folds of the latter. As it burrowed upward it stripped off the peritoneal coat of the womb and bladder, fusing itself to these now naked organs by continuity of structure, and not by mere contiguity. Hence, in the operation for its removal, the womb was liable to be badly wounded and the bladder torn open. Burrowing downward it uncovered and soldered itself to the ureters, the great pelvic vessels and the rectum, making its separation here very dangerous and sometimes impossible. Mounting upward from this region, the sac goes in between the two folds of the mesentery, mesocolon and mesocæcum, and prying them ingrafts itself upon these viscera. In these cases a portion of the cyst must be left behind, as the union is too integral to be severed. Another characteristic is the proneness of the cyst wall to burst and to infect the whole peritoneal cavity with papillomatous poison. Whether this is always malignant is doubtful, for he had seen patients wholly recover whose entire peritoneal cavity was studded with papillary growths. On the other hand, he had had them die in a few months after the operation.

The signs of an intra-ligamentary cyst were immobility and low descent of the sac, vertical elongation of womb and bladder, embarrassment in micturition and in defecation, pelvic pains, unsymmetrical abdominal development, and resonance on percussion from bowels carried up in front.

The operation for the removal of an intra-ligamentary cyst demands great experience on the part of the physician, and taxes all his pluck. These are the cases which are liable to die either on the table or a few hours afterwards from shock. Formerly, when a cyst was found to be intra-ligamentary, the incision was closed and the case abandoned. Now, thanks to Miner, of Buffalo, the surgeon needs rarely to be foiled.

Since the bladder is often dragged upward, and then lies directly under the line of the incision, great care must be taken not to wound it. The cyst should then be emptied, but it must not be lessened in size by the introduction of the hand and the break-

ing up of daughter-cysts, because the flow of blood would be too great, and papillomatous material might escape into the abdominal cavity. For the latter reason the opening made by the trocar should be securely closed. The collapsed sac is now drawn out of the abdomen and the capsule is divided, little by little, in a circle on a level with the edge of the abdominal incision. The sac wall is then enucleated so as to leave an uninjured cup-like cavity. To do this with the least amount of hæmorrhage, the incision should begin at the lateral border of the sac, where the spermatic vessels lie. After these are secured, the incision is extended to the site of the womb, where will be found the uterine arteries, which will also be cut and secured either by ligature or by pressure forceps. As the surgeon advances he will have to tie or clamp many blood-vessels. The attachment to the womb is left for the last, and it can then usually be brought outside of the abdomen, when it may be often converted into a sort of pedunculated attachment which can be ligated *en masse*. Often the whole sac is shelled out of its capsular nest, without any approach to a pedicle. In the deep portion of the enucleation great care must be taken not to injure the ureters, rectum, or the large pelvic vessels. When firm adhesions to important viscera are met with, the adherent portion of the sac must be cut off and left behind, but its secreting layer should be peeled off.

The vast cavity of the empty capsule is treated in one of the following ways, each aiming to exclude it from the peritoneal cavity: (a) The edges of the capsular cup are attached to the border of the abdominal incision and a drainage-tube is put in. (b) Through the floor of the intra-ligamentary wound a catch-forceps is thrust through into the vagina. There it is made to seize a winged rubber drainage-tube, which is drawn up into the capsular cavity. The edges of the capsule are now trimmed and sewn with gut the one to the other, so as to exclude its cavity from that of the peritoneum.

Whenever neither of these modes can be adopted one large drainage-tube, or even two of them, should be introduced into the pelvic cavity.

Dr. Drysdale said that the paper of Dr. Goodell covers the ground so thoroughly that he could add but little to what had been said. One important point is the extreme thinness of the cyst wall often met with in these cases, which, in his experience, had made it almost impossible to get the cyst away without tearing. Another difficulty peculiar to this form of tumor was the risk of wounding the great blood-vessels of the pelvis when the cyst had burrowed under or become incorporated with them.

Dr. Drysdale understood Dr. Goodell to say that he believed that all operators, in removing these tumors, had met with the accident of opening the bladder. He was glad to say that in an experience of twenty-six years he had never been so unfortunate as to open that organ. Dr. Drysdale believed that true papillomata always prove fatal. The faith of some writers in the curability of these growths is founded upon the error of mistaking a benign growth which resembles them for true malignant papillomata. These innocent masses of papillary granulations, in fact, so closely resemble the malignant that the microscope alone can distinguish one from the other.

Dr. J. Price has not had experience in the removal of this form of abdominal growth. He is pleased with the free use Dr. Goodell makes of drainage-tubes; he himself has used three at one time in complicated operations. He is wishing for some form of perfected continuous irrigation applicable to the after-treatment of abdominal section. He has had his greatest experience in the removal of pus tubes, and has met with a mixed ovarian and parovarian growth in many of his patients. Mr. Tait had described two varieties of papillomatous cysts, one having virulent characters and the other benign.

Dr. B. F. Baer has had some experience with this class of tumor. He has operated on at least four cases so far as he can recall at this moment, but they had not been quite so severe nor the tumors so large as the typical case described by Dr. Goodell, probably because they had been removed earlier.

The first case was one of a double tumor of very rapid growth, sent to him by Dr. Gabel, of York, Pa. The patient had been perfectly well so far as she knew eight months previously, but at that time she suffered from an attack of acute urethritis and vaginitis, followed by a burning pain in both ovarian regions. Soon she found that the abdomen was enlarging, especially on the right side. Seven months after this date, when he first saw the patient, she was much emaciated, and the abdomen was greatly distended by an irregular, fluctuating tumor. There was a deep sulcus extending from the lower border of the tumor diagonally upwards. The uterus was soft, high up and drawn to the left. When the abdomen was opened two large tumors were revealed. The left was tapped and removed first, because it was uppermost. It had a short, thick pedicle, which was transfixed, ligated and dropped. The larger tumor was next emptied, and it was now found that it had a deep pelvic attachment. Further examination showed that the tumor was subperitoneal and closely adherent to the uterus, as well as to all the pelvic viscera. Enucleation was begun, and after a laborious effort, during which considerable bleeding occurred, the tumor was separated, leaving a large open wound in the broad ligament. This was transfixed and tied *en masse* as a pedicle, making a very thick stump. Just as he was about to close the abdominal wound the ligature slipped off. Great hæmorrhage followed this, and it was feared the patient would succumb before it could be checked; but by the rapid application of catch forceps one after another it was controlled until ligatures could be placed. The wound in the broad ligament was finally united by placing ten or twelve interrupted silk sutures. After carefully cleansing the abdominal cavity of all clots the incision was closed—without drainage—and the patient put to bed more dead than alive. It was thought that she could not react from the shock, but she rallied and made an excellent recovery, going home on the twenty-third day, in charge of Dr. Gabel. She remains well three years after the operation.

The second case was also a double tumor of rapid

growth. One or both of the cysts had burst and probably discharged into the bowel on two occasions before he saw the patient. She presented an appearance of great pallor and emaciation. The abdominal surface was rather symmetrical and fluctuation was very marked. The uterus was drawn high up and it was not freely mobile. When the cyst was exposed it presented a deeper color than that common to the ordinary ovarian cystoma. The cyst wall was thin. After tapping, it was found to have a deep pelvic connection. Enucleation was necessary and a thick pedicle was ligated. It was now found that another smaller tumor existed on the left side. This had a peculiar shape, being elongated and deeply seated in the pelvis. It was entirely subperitoneal. The peritoneum extended out from the uterus, spreading over the tumor and approaching the abdominal wall as is sometimes seen in a fibroid tumor of the uterus which has pushed that membrane upwards in its growth. The cyst extended along the line of the colon, and at first he was not sure that it was not that organ greatly distended by gas. He soon determined that it contained fluid and that its general appearance was similar to that just removed. The fluid was evacuated, when the cyst collapsed. He hesitated as to the proper course now, because of the broad base and deep attachment of the tumor and its close adhesion to the sigmoid flexure. He first thought of stitching it to the abdominal incision and draining, but he did not, and was sorry soon after that he had not carried out his first idea, for his attempt at enucleation of the tumor was attended by so much hæmorrhage, although ligatures were applied freely, that he felt compelled to cease his efforts. He had separated at least six inches of the descending colon from the cyst wall when he found that the latter dipped down so deeply into the pelvic excavation that he concluded that it would be too hazardous to finish the operation. He next tried to strip off the lining membrane, but could not do so safely because of its intimate relation with the large blood-vessels and ureter. He finally drew out all that was separated and ligated the entire mass. The stump was dropped and a drainage-tube inserted. The patient recovered, but she still has an occasional fistulous opening at the site of the drainage-tube. He does not think that this cyst was papillomatous, but it was certainly intra-ligamentous.

In another case he performed secondary ovariotomy for a small tumor of this character in a case of hystero-epilepsy and metrorrhagia. The upper surface of the tumor looked not unlike the pregnant uterus in color and vascularity. Its outer wall was interlaced with a network of veins, some of them as large as a quill. Exploration with the fingers showed it to be so deep in the pelvis and so closely attached to the uterus, Fallopian tube and broad ligament that they seemed to be one mass, the whole attached by a broad surface to the pelvic floor. The cyst was almost filled with papillary material and it was difficult, on account of adhesions and the deep location of the tumor, to remove it without the escape of some of this material into the peritoneal cavity. Irrigation was not used, nor was drainage, as they did not seem to be necessary. The patient made an excellent recovery from the operation. The after history of this case is of value. A year or two subsequent to Dr. Baer's operation she consulted Dr. Kelly, who performed a third laparotomy.

A fourth case had been diagnosticated fibroid of the uterus, and it presented some of the symptoms of that disease. The womb seemed to be one with a hard tumor, the size of a child's head, which occupied the right iliac region, and the patient suffered from severe metrorrhagia. The left side was somewhat similarly affected, but not to the same extent. Under ether diagnosis of cystic tumor of the ovaries or broad ligaments was made. Laparotomy confirmed the diagnosis and showed the tumors, broad ligaments and uterus to be one mass. Profiting by his former experience, he began by ligating the Fallopian tube and larger blood-vessels before beginning the enucleation, and had no trouble from hæmorrhage. By this means the larger tumor on the right side was safely removed. But the one on the left side was so firmly fixed to the womb that to remove it would have required hysterectomy as well. Even this could not be done because of the pelvic attachments of the tumor. It could not be drawn up. He then tore a small opening through the posterior surface of the broad ligament and shelled out the lining membrane of the enclosed sac. Free hæmorrhage occurred, but was controlled by sponge packing. Free drainage was used; the patient recovered.

In still another case operated upon recently he was compelled to remove the right cornu of the womb with the tumor, because of the close connection of the small tumor to that organ and the tube. A similar condition existed on the left side. The tumors were papillary, and the patient had suffered from great hæmorrhage at intervals during two years. Drainage was used, and the patient has recovered from the operation.

Dr. Baer did not consider these papillary cases malignant in the sense that they will return after operation; they were certainly not epitheliomata.

DR. GOODELL'S experience tallies with that of Dr. Kelly, that some of his patients were eventually poisoned by the virulent character of the cyst contents, and died a few months later, while the majority were not affected at all. One explanation of these varying results may be expressed in the statement of Virchow that a papillary growth may be benign at an early stage of its development and may afterwards take on malignancy. The walls of these parovarian intra-ligamentary cysts are very thin, as mentioned by Dr. Drysdale He had called attention in his paper to the danger of wounding the great vessels and mentioned a case in his own practice, which Dr. Drysdale overlooked. He likes Monsel's solution as an application to oozing surfaces. He has used it freely, in full strength, over the whole capsular cavity by means of a sponge saturated and squeezed out, or he wets the end of his finger with it and applies it to bleeding points. Our President has been very fortunate not to have wounded the bladder in such operations, for all the eminent operators have reported cases. *(To be concluded.)*

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, January 17, 1888.

THE PRESIDENT, J. SOLIS-COHEN, M.D., IN THE CHAIR.

DR. LAWRENCE F. FLICK read a paper on

THE HYGIENE OF PHTHISIS.

(See page 138.)

DR. T. J. MAYS said: I have listened with much interest to this remarkable paper, which expresses a view which I did not think existed to any extent in this city. The author attributes the existence of pulmonary phthisis to the bacillus tuberculosis. I do not think that such a view is borne out by the facts. If it were true that phthisis is propagated by contagion, those who are the most exposed to the disease should be those who would be most liable to contract it. The facts prove that this is not the case. Probably the best evidence of this is found in the history of Brompton Hospital, of London, when the report was made a few years ago. This hospital had been in existence thirty-six years. It has a capacity of nearly four hundred beds. The history includes nearly all those who were connected with the hospital as physicians, nurses, etc., during this period. Not one case of the disease could be traced to the hospital as the source of contagion. Dr. Brehmer gives some remarkable results in his book on the *Etiology of Pulmonary Tuberculosis*. He states that in the town of Görbersdorf, where his hospital is located, that the mortality rate of the native inhabitants from phthisis twenty years ago, at which time the hospital was established, was 50 per cent. greater than at present, notwithstanding that during that time there have been present about twelve thousand consumptive patients who have freely mingled with the citizens. It also often happens that at health resorts for consumptives the physician himself is the subject of the disease, and yet, under such circumstances, frequently improves in spite of the presence of the tubercle bacilli.

The author advocates a strict quarantine against the bacilli. Precisely such a quarantine was carried out in Naples for sixty years up to forty years ago, but the results were entirely negative.

In another statement the author is, I think, not borne out by facts. He states that females are more liable to the disease than are males. I have recently gone over an enormous amount of statistics, collected in this country and abroad, and they show that females are much less liable to the disease than males. The report of my statistics will be found in the *Medical News* of January 7, 1888. The fact that the disease is less frequent among females may be accounted for by the fact that they have a more extended apical motion than the male, and we know that consumption never occurs in any one who has a well-developed apical expansion. On the whole, one cannot help but be pleased with the paper, but while I admire it, I cannot agree with all the statements that it contains.

DR. J. DALAND said: I think it has been well ascertained that an hereditary predisposition does play an important influence in the causation of phthisis. It seems to me that this fact still remains well established. With reference to the climatic treatment of phthisis, I do not think that this can be dismissed with the few words which the author has given to it. There seems to me to be no doubt that in the early stage of the disease, particularly in young men, that a change to a colder climate is of benefit. The disinfection of the sputa is a point on which sufficient importance is not usually placed. It is a matter of the greatest moment, and should be employed in every case of phthisis.

DR. S. SOLIS-COHEN said: I believe that it was Mr. Spencer who thanked a certain philosopher for benefiting him by expressing opposite opinions in a forcible an eloquent manner. I can make my acknowledgments to the reader of the paper in similar language. I admire the suggestiveness and the vigor of his paper, but I find it almost impossible to agree with any of the theories advanced. As to the practice advocated, physicians of experience are all of nearly one mind; nor has Dr. Flick permitted himself to be led astray in this matter by his theories. The question of the omnipotence of the bacillus tuberculosis is one that deserves to be ventilated on every occasion. I have already to-night quoted the remarks of Dr. B. W. Richardson in another connection, but as I consider him the master-mind in medicine of the nineteenth century I need offer no apology for again quoting him. He says, "What have we done, to be visited in the heavens above, in the earth beneath, and in the waters under the earth, with the *pestis bacillorum*, which is now regnant?" Everything is bacillus. Dr. Richardson believes that it will not be long before the bacillus of pregnancy will be discovered.

I think that Dr. Flick has himself given the strongest argument against the bacillophobic views he advances. The chain of events graphically described from several starting-points invariably concluding—malnutrition and consumption. Malnutrition is the fundamental, the bacillus is the accidental. It may be that the bacillus does, when inoculated, under certain circumstances, cause tuberculosis, there is some doubtful evidence bearing on this point which cannot be dismissed in a discussion of this kind. Even admitting that inoculating with the bacillus will cause consumption there is no evidence that the inhalation of the bacillus will cause the disease. The inhalation of sputa and the inhalation of the bacillus are two different matters. The pus-cell and the coccus pyogenes are not at all synonymous They may be in the mixture which goes to make up the sputum, an element similar to those bodies which we know as the leucomaines and ptomaines, which, in a person predisposed and in a low condition, may be capable of exciting the disease by interference with nutrition or otherwise. The evidence on all these points is very far from being clear. But granting for argument's sake, that the microbe is one of the existing causes, we must still recognize, as the reader of the paper has pointed out, that the ba-

cillus is everywhere present, and no matter how powerful are the means brought against it, they are incapable of destroying it or of dislodging it, when it is once in the lungs. Even if we could destroy every bacillus in the lungs, at the very next breath the enemy is once more within the strong-hold. Therefore, the only rational thing to do, to prevent consumption whether the bacillus be a cause of the disease or not, is to build up the nutrition of the individual by the measures mentioned to-night and by others. We must utterly discard the misleading, and therefore destructive, idea that by bringing germicidal agents against the bacillus tuberculosis we can benefit our patients in the least. Treat the patient and the bacillus will take care of itself.

The question of the marriage of those that inherit the tuberculosis diathesis—and that there is such a diathesis universal experience goes to prove—is a very important matter, and, notwithstanding the views advanced, I think that every one of us should warn against the marriage of those whom we have reason to suppose would transmit such a woful inheritance. The question of baths in consumption is an important one. There are two methods of failure of function in consumptive patients which we must recognize. The one is a failure of assimilation, and the other, no less important, is a failure of excretion. The skin is an important excretory organ, and it cannot be kept in the best functional condition without bathing. While we may not plunge a patient into a cold bath, we must see that he keeps the skin of the entire body clean, and as active as circumstances permit. Baths at a moderate temperature, when possible, or if not, daily sponging of the entire body should be insisted upon. This will often relieve pathological sweating. It is also a question of the greatest importance in how far we shall check sweating by drugs, whether to reduce the skin to a dry and hot condition, is not far more dangerous than the very moderate perspiration for which atropia and other drugs are frequently given. This question must, of course, be decided in every case upon its own merits, with due attention to all the circumstances. Still I feel that it is often better to depend upon our general measures for the relief of this and other special symptoms than to resort at once to symptomatic medication.

DR. M. PRICE said: I would ask Dr. Flick with reference to his experience with inflammatory conditions as a cause of phthisis. I do not believe in herditary consumption. I believe that 90 per cent. of the cases of consumption come from some inflammatory condition as the starting-point. I am a firm and positive believer in the inflammatory origin of consumption. In nineteen years of practice I have not seen more than three or four cases in which I could not discover an inflammatory cause. I believe that without this inflammatory starting-point, consumption is impossible.

DR. FLICK said: I felt considerable hesitation in presenting this paper, as I knew that the opinions expressed were in conflict with those of many on the subject. I have strong convictions on the subject, however, as I have myself been the unfortunate victim of the disease. I have given the matter a great deal of thought, and have observed the effect of many remedies and of hygienic conditions. I do not know that those who have discussed the paper got my exact ideas on the subject. I hold that consumption is entirely dependent for its initial starting-point on malnutrition. I hold that without malnutrition and malassimilation such a thing as consumption cannot take place. I think that when one is run down he is then a fit subject for the bacillus tuberculosis, and unless he is run down and his digestive apparatus is out of order he will never fall a victim to phthisis, no matter of what his parents or his grandparents died.

The objection based upon the fact that nurses in hospitals do not contract the disease from their patients, is not well grounded. The nurses and others connected with a hospital are generally well nourished, as they get everything that is necessary to keep up their condition. When they get below par they fall victims to the disease.

I believe that no consumptive patient derives benefit from climate in itself. The benefit comes from the change of life and from the out-of-door life. If the patient lives an out-of-door life and takes nourishing food he may recover. If he goes to any climate and stays in the house he will die.

With regard to the relative frequency of the disease in males and females, I would state that my statistics are drawn from the census reports of the United States.

I have no doubt that inflammatory conditions of the lungs have some bearing on the production of the disease, inasmuch as a person who has had pneumonia is left in a depressed condition. I think, however, that a mistake in diagnosis is often made. I believe that a case is often considered to be one of pneumonia when really it is a case of phthisis. It is said that pneumonia has run into phthisis when in reality it was a case of phthisis from the beginning.

I have brought this subject forward with the hope of exciting discussion. This is a matter that is too much neglected. There is no disease that causes as many deaths as does consumption, yet we have become so accustomed to it that we do not give it the attention it deserves.

Stated Meeting, December 28, 1887.

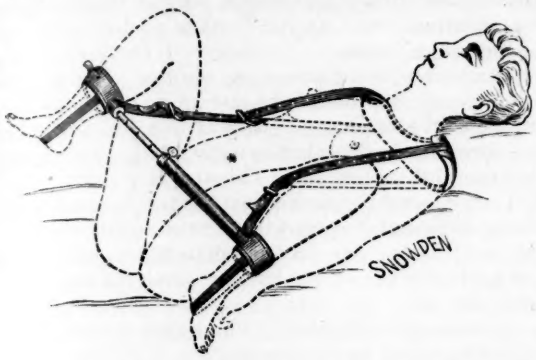
THE PRESIDENT IN THE CHAIR.

DR. W. W. KEEN read a paper on

A MODIFICATION OF THE "PERINEUM DISTENDER" TO AVOID ITS INTERFERENCE WITH RESPIRATION.

In the frequent use of the "perineal distender," I have found the strap which passes under the nape of the neck very objectionable. This strap flexes the legs, and supports their weight. While doing so the weight of the legs pulls the head and neck strongly forward, and thus often seriously embarrasses the respiration. To avoid this, I have had the wooden shoulder-piece of the old Day's apparatus for fracture of the clavicle slightly shortened, and find it answers admirably. Under its loops, over each shoulder, two straps

are passed, with a buckle turned wrong side foremost at one end. The other free end, after passing through this buckle in the armpit, then is buckled to the cross-piece between the legs. By this means the pressure is brought on the shoulders instead of the neck, and respiration is entirely unimpeded.



I have also had two straps attached at right angles to the straps for the legs. By this means the leg straps can be secured above the calf as usual or at the ankle. In this last position the new straps, by passing under the foot-soles, more completely flex the legs, and get the feet out of the way of the operator.

Dr. Charles Meigs Wilson read a paper on

THE TECHNIQUE OF OÖPHORECTOMY.

Preparation of the Patient.—In all cases, it is advisable for the operator to have the patient under observation some little time before the operation. Too much condemnation cannot be given to hasty and ill considered operations. The urine should be carefully examined, in order to see that it is free from albumen. Neglect of this rule has doubtless oftentimes been the cause of the patient's death. The gastro-intestinal canal should be in a state of healthy function, and the day preceding the operation all portions of the intestine should be thoroughly emptied. This is best secured by the administration of some gentle laxative, such as the compound liquorice powder, in 1- or 2-drachm doses; or, if there be some torpidity of the liver, by the administration of $\frac{1}{12}$ of a grain of calomel every hour until the bowels are opened; care, however, being taken in both cases not to purge the patient, and not to set up any excessive peristalsis. On the morning of the operation, the rectum should be emptied by an enema and, in order to prevent the accumulation of gas in the intestines and to avoid gaseous distension of the intestines, it is generally best to put into the laxative enema a little turpentine emulsified with the white of an egg. This, as a rule, relieves the intestines of any accumulation of gas present in them, and at the same time is not irritating. The patient should have, on the morning of the operation, a hot bath, which will add to her comfort and remove any sebaceous matter on her abdomen; it is best to have the patient sponged with alcohol after the bath. Also, on the morning of the operation, the patient should abstain from taking any food, unless it be a cup of strong coffee or a little milk and lime-water. The administration of this food should always precede the time of operation by three or four hours. Above all, it is necessary that the patient have a chance to recuperate her strength and prepare for the mental and physical ordeal of the operation by having a rest in bed of at least three days before the operation, and this is especially important if the patient has come on a long journey and is fatigued with travelling.

The Surroundings of the Patient.—By election, it is always best to operate upon the patient in a hospital, particularly if one have a hospital ward especially devoted to this class of work, in preference to operating upon the patient at her own home. The reasons for this are obvious. Prior to the operation, it is better that the patient should have a room remote from the operating-room with all its appalling armamentarium and paraphernalia, in order that she may not become frightened or worried by seeing the preparations for the operation. It is best on the morning of the operation to bring the patient to a room adjacent to the operating-room, where she may rest until the anæsthetic is administered. The room should be bright, cheerful, airy, and spacious, and should have pictures on the walls, or something in the room to divert the patient's attention. The patient should also be constantly attended by a nurse during the hours preceding the operation, in order that she may not become lonely and allow her mind to dwell upon the operation. It is best, both before and after the operation, to exclude rigorously the friends and relatives from access to the patient, and to have the patient give herself up entirely to the operator, in order that he may control her movements without the interference of relatives and friends.

The Operation.—The room for the operation should, when possible, have walls and floors that can be thoroughly cleaned and disinfected, in order that the operation may be conducted in an aseptic atmosphere. For this purpose, the operator's own operating-room has tile floors and glazed tile walls, so that the whole place can be flooded out with water, and placed in a thoroughly clean condition. An operating-table of plain wood, painted, resembling in size and shape the ordinary kitchen table, is all that is really necessary. One or two stands of light construction, and upon large castors, in order that they may be readily wheeled from one portion of the room to another, and a chair for the assistant who holds the patient's limbs, are all the furniture required. A large can containing distilled water and an alcohol lamp or gas burner under it so as to maintain the water at a fixed temperature, and a tube running from the can to the table, so that at any time during the operation the whole operative field can be flooded, is also in the room. The sponges are used over and over again until the sponge fibre commences to show evidences of disintegration. These are always of the finest quality and for the most part those which are known as potter's sponges, or thin, flat sponges. For the first time, they are prepared as follows:

All of the dust is first beaten out of them. They are then immersed in a 15 per cent. solution of hydrochloric acid for forty-eight hours. They are next thoroughly washed until all the acid is removed from

their interstices. Then they are placed for half an hour in a solution of permanganate of potassium, 180 grains to 5 pints of water. This is done in order to bleach them. The hydrochloric acid solution is, of course, for the purpose of removing any mineral matter that may be in their meshes. They are again washed in running water and placed in a solution consisting of 10 ounces of the hyposulphite of sodium, 5 ounces of hydrochloric acid and 68 ounces of water. They are allowed to remain in this solution for a period of from two to four hours until thoroughly bleached. They are next thrown into troughs of running water where they are allowed to remain for several hours. Afterward they are placed in jars containing solution of bichloride of mercury (1:1000) and hermetically sealed until the time of operation. After an operation they are washed out in warm water, then soaked in a solution of sodium carbonate half ounce to a pint of water for three or four hours, then rewashed in warm water and put back in the 1:1000 bichloride solution ready for use again. The instruments are all nickel plated, with the exception of the cutting edges. They are prepared by being first scrubbed with glycerine soap and then immersed for several minutes in boiling hot water. They are then laid upon towels which have previously been immersed in the solution of the bichloride of mercury (1:1000) and thoroughly dried by superheated steam. They are then ready for use. The needles are kept in a 5 per cent. solution of carbolized oil. The ligatures and sutures are kept immersed in a solution of bichloride of mercury (1:500). They are always washed in distilled water immediately before being used. For suturing the abdominal wall silkworm-gut has been found most satisfactory, clamped and held in position by perforated shot. For ligatures the twisted Chinese silk, imported by Mr. Snowden of No. 7 South Eleventh St., Philadelphia, has been found to be the best. For anæsthesia, chloroform has been used instead of ether, unless the operation is likely to prove a long one. The reason that chloroform is preferred to ether is the author's belief that chloroform when properly and carefully administered is nearly as safe as ether, and because with chloroform, as a rule, there is none of the bronchorrhœa and gastric disturbance which usually follow the administration of ether. When ether is given, it is found that a less amount is required and that the anæsthesia is more satisfactorily induced and maintained by administering the ether upon the Allis inhaler rather than with the ordinary cone. Where chloroform is employed, it is usually administered by means of the shield devised by Professor Billroth and used in his clinic.

The temperature of the operating-room should be about 75°. It is best to cover all portions of the patient's body with light blankets, with the exception of that portion of the abdomen involved in the seat of operation. An assistant sits at the foot of the operating-table, and receives and holds the patient's limbs, passes the catheter just before the operation, and, when necessary, with the finger in the vagina, lifts ovary, tube, or pedicle up into the abdominal wound, as the operator may desire. A trusted assistant takes charge of the anæsthetic and does nothing else. The chief assistant stands on the left side of the patient, ready to give immediate aid to the operator.

Immediately preceding the operation the patient's abdomen is wiped off with a little ether, in order to remove any greasy matter that may be present upon the abdominal wall, and it is then washed with the bichloride solution (1:1000), and carefully dried, especial care being taken to see that all the little folds about the umbilicus are perfectly clean. If there be an abundance of suprapubic hair, sufficient is removed to give a chance for extending the incision downward if necessary. The operator having satisfied himself that the patient is sufficiently anæsthetized —and sufficient is meant that she is anæsthetized to the surgical degree—the abdomen is opened with a few rapid strokes of the knife, without the use of the director.

The operator can readily judge of the depth of the abdominal wall, and really no care is required until the subperitoneal fat is reached. The abdomen is opened in the median line, care being taken to strike the linea alba if possible, so as not to open the sheath of the recti muscles. If we fail to strike the linea alba, no time is lost in dissection in order to reach it, but the abdomen is opened, if need be, through the rectus muscle. The rule with reference to the incision best to be followed is to make it as small as is compatible with the removal of the ovary or of the growth. Where oöphorectomy is performed, an incision one and one-half or two inches in length is amply sufficient. On the contrary, where an ovarian cystoma is to be removed, and the tumor is a large one, or perchance, semi-solid, or where the adhesions are numerous, it is a great deal better to enlarge the incision in order that the growth can be readily gotten at, rather than to attempt its removal without knowing exactly what we are doing, and without having room enough to raise it up through the abdominal wound. No care is taken to prevent the blood from the wound in the abdominal wall escaping into the peritoneal cavity, and although it is always best to avoid allowing the contents of a cyst getting into the abdominal cavity, it is thought best to complete the operation rapidly, rather than to avoid the escape of the cyst contents into the abdominal cavity. If, however, we are dealing with a pus tube, then, of course, the greatest care must be used to avoid the escape of the pus into the peritoneal cavity, owing to rupture of the tube wall. The pedicle is transfixed with an aneurism needle, the penetrating arm of which is at right angles to the handle, and tied with a stout twisted Chinese silk. The loop of the ligature carried through the pedicle is held as the needle is withdrawn, and divided; each half of the pedicle is tied, and then the whole pedicle is tied with the remaining parts of one of the ligatures. The pedicle is severed close to the ligature, care being taken, however, to leave sufficient of the pedicle to prevent the ligature from slipping. An important precaution to take to avoid secondary hæmorrhage, is to hold the pedicle with the Martin forceps for a few moments and then, if there be no evidence of hæmorrhage, it

is dropped back into the peritoneal cavity. Where there is any tendency to hæmorrhage from the pedicle, it is lightly touched with the flat button of the Paquelin cautery. Where the ovary is bound down by adhesions, and there is oozing from those which have been torn asunder, they are lightly touched with the finger, which has been rubbed against a piece of the perchloride of iron. The abdominal cavity is then invariably flooded for about five minutes with a stream of distilled water at a temperature of 100° F. It is surprising to see how, when a patient is profoundly shocked, this intra-peritoneal irrigation with hot water will immediately restore the equilibrium of the pulse and rally the patient from the shock. In operating, care should always be taken not to handle the ovary or the meso-salpinx any more than is absolutely necessary, because, as has been frequently noted, the patient's respiration becomes embarrassed, and oftentimes temporarily ceases during the time that the ovary is in the grasp of the operator's fingers. Where there is a cyst of any size, its contents are aspirated with Mears' trocar; but where the cyst is small, we prefer to enlarge the abdominal wound, rather than to delay the operation by evacuating the contents of the cyst with the aspirator.

The Toilet of the Peritoneum.—First, as noted above, the peritoneal cavity is thoroughly irrigated with distilled water at a temperature of 100° F. The patient is then turned on her side and all the water allowed to drain out that will. She is then again turned upon the back and the peritoneal cavity carefully sponged, the intestines and mesentery being held out of the way with one hand while with the other the operator carries a sponge attached to a bayoneted sponge-holder, first into the retro-vaginal portion of the peritoneal cavity and then into both iliac fossæ. The sponging is continued until all shreds of coagulated blood are removed, and until when the sponge is brought up only a pale pinkish fluid escapes when the sponge is squeezed.

When we are sure that all hæmorrhage has ceased within the peritoneal cavity, the intestines, if any have been left out of the abdominal cavity, are carefully replaced and the mesentery is folded over them. If necessary to lift loops of intestines out of the abdominal cavity, they should be carefully wrapped in soft towels kept moist and at a temperature of 100° F. Upon the mesentery is placed a thin, flat potter's sponge which extends half an inch or more around all portions of the wound. This is placed there in order to absorb any blood which may escape from the needle punctures. Its centre is grasped by a hæmostatic forcep in order to facilitate its removal after the sutures have all been introduced. A strong, stout needle threaded with a loop of catgut or Chinese silk, in order to snare the silkworm-gut, is used in the introduction of the sutures. The sutures are all introduced from within outward in order to avoid wounding the intestines with the point of the needle, and the free ends of each suture are held in the bight of the hæmostatic forceps. When the sutures are all introduced, the flat sponge is removed and the central suture is first tightened. It is found that as a rule, this makes a neater approximation of the edges of the wound. The sutures are fastened with perforated shot. The abdomen is carefully washed off with the solution of bichloride of mercury (1:1000), immediately the wound is closed. There is then poured over the surface of the wound a liberal quantity of Keith's dressing (12 per cent. solution of carbolic acid in glycerine). Over this are laid five or six thicknesses of Lister's gauze, and over the first thickness of the Lister's gauze (the one nearest the wound surface) is dusted a liberal quantity of pulverized iodoform or equal portions of iodoform and boracic acid. Over the Lister's gauze is then placed a thick wad of bichloride wool—that is wool that has been wet with a solution of bichloride of mercury (1:1000) and thoroughly dried. Over this dressing is applied a bandage of opera flannel fastened with safety pins.

After-Treatment.—For the first twelve hours after operation, the patient eats absolutely nothing. If, at the end of that time, the patient has rallied from her shock, and there is no hyperpyrexia or other symptoms of evil import, we commence to feed the patient with weak tea, ice-cold, giving two or three drachms every hour. This we have found by experience to be the best way of quenching thirst and furnishing gentle stimulation without overtaxing the stomach or producing nausea or emesis. At the end of twenty-four hours we commence the administration of food. This is preferably milk if the patient will take it and the stomach retain it. If the stomach be irritable, we give Koumiss or Matzoon in place of milk. Unless the stomach rebel, the use of the milk is continued in half-ounce doses with a little lime water, and after a few hours it is alternated with beef or chicken tea; on the fourth day, if the patient is doing well, we commence the administration of animal broths and soft food.

The dressing is never changed unless symptoms arise leading us to suppose there is something wrong with the wound, or trouble within the peritoneal cavity. The sutures are removed on the seventh or eighth day. Drainage is never employed, unless we have reason to fear tissue necrosis as the result of traumatism of the operation, or unless we fear hæmorrhage into the peritoneal cavity. If symptoms arise which indicate drainage, it is a very easy thing to open the lower angle of the wound, and insert a drainage tube; where a drainage tube is used, glass is the preferable form. Great care must be taken to see that the mouth of the tube is thoroughly closed by a little tuft of the bichloride wool. When it is necessary to remove any fluid contained in the drainage tube, it is best done with the long uterine syringe, and after the removal of any fluid it is well to pour along the sides of the drainage tube a few drops of Keith's solution of carbolic acid and glycerine. As a rule, the patient is kept in the hospital for a week after the sutures are removed, and is enjoined from travelling any distance until a month has elapsed from the date of the operation. The bowels, are moved, as a rule, upon the sixth day, preferably by a gentle saline. Recently we have found Rubinat water the best for this purpose, giving a third of a tumblerful as a dose.

Great care should be taken by the operator to know exactly how many hæmostatic forceps, instruments, and sponges are present in the room prior to the operation. It is the duty of the nurse to count over the instruments and have the count verified by an assistant, both before and after the operation, in order that the operator may avoid the distressing accident, which has happened now many times of leaving a hæmostatic forceps of sponge within the abdominal cavity.

The operation may be performed at any time, with the exception of the menstrual period, and five days before and five days after it.

Complications arising in the After-Treatment.—A majority of the cases that die after oöphorectomy perish from sepsis. Where proper care is taken in the preparation and management of the operation to have everything about the patient, including the atmosphere of the operating-room, the patient's body and clothing, the instruments, the dressings, and, above all, the conduct of the operation in aseptic condition, experience has shown that an extremely small per cent. of patients die from this cause. Careful attention to the rules described in this paper will do a great deal to prevent trouble of a septic nature after the operation. Cleanliness is the desideratum, and this is not by any means attained by the use of antiseptic agents. Indeed, the best results have been obtained, not with the use of carbolic acid or corrosive sublimate, but by the use of distilled or plain boiled water. Personally, I take it that the use of carbolic acid is never justifiable, for it can never be used in solutions sufficiently strong to possess aseptic properties without subjecting the patient to the danger of carbolic acid poisoning. Where, however, septicæmia does present itself, it is best combated by reopening the abdominal wound and irrigating the peritoneal cavity with hot water. The septic hyperpyrexia is best reduced by the administration of antipyrin, and when once the temperature is gotten within the safety line it is best kept there by the administration of quinia. In desperate cases good results in the reduction of high temperature may be hoped for from the ice cap. Stimulus must be freely given, and opium or chloral in sufficient doses to control the nervous disturbance which is nearly always present. Where it is necessary to give opium or chloral it is best to give by the rectum, saving the stomach for the administration of food and stimulus.

Peritonitis following the operation is, I believe, generally septic in character; it is best subjugated by the use of salines. Shock after the operation requires the same plan of treatment employed in treating shock after any other operation. The usual means employed are external warmth and the hypodermic administration of cardiac stimulants, as soon as the patient can swallow a few spoonfuls of hot coffee, will generally be found the best means to counteract the shock.

The Limitations of the Operation.—I believe the operation is justifiable for the relief of ovarian pain, otherwise uncontrollable; for the artificial establishment of the menopause in cases of uterine fibroma characterized by rapidity of growth and exhaustive hæmorrhage, and in which all other means have been tried unsuccessfully; for the cure of those cases of hystero-epilepsy which have well-defined menstrual exacerbations, and which have failed to yield to all other plans of treatment; and finally for those cases (which abound in every hospital for the insane) in which the mania or mental aberration is evidently dependent upon, or caused by, the act of ovulation. Indiscriminate, or what may be called hit or miss spaying, cannot receive too severe condemnation.

FOREIGN CORRESPONDENCE

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

Density of Population—Uses of Embelia Ribes—Inhibitory Action of Cocaine in the Diagnosis of Neuralgias—Treatment of Carotid Hæmorrhage—Diagnosis and Treatment of Eczema—Carbolized Oil in the Prophylaxis of Scarlatina—Abscess of the Liver—Hot Baths in Hydrophobia.

London, with all its millions, is not, after all, the most densely populated city in the country. From the latest report of the Local Government Board, just issued, there is authority for the statement that the density of the population in the city of Liverpool as a whole, measured by the number of persons to the acre, is equal to 112, or double that of the metropolis. There are actually acres in which the population reaches 1,200. It is hardly to be wondered at that these are the home of typhus. Much unwholesome property has been demolished of late years, but it is estimated that 60,000 persons are still living in wretched back to back court houses, around which free circulation of the air is practically impossible. This estimate takes no account of front-street houses nor inhabitants of cellars. In tenement houses are numerous cases of gross overcrowding. Into this population immigrants from Ireland, where typhus is endemic, are constantly arriving, and it is to the temporary housing of these often semi-destitute newcomers that much of the overcrowding is due.

The berries of the Embelia ribes, known in India under the name of Babarung, have been found by Dr. W. L. Scott to contain several new principles, some of which are likely to become of great therapeutical and pharmaceutical importance. Embelin is the name suggested in England for a principle yielded by these berries, which crystallizes in beautiful golden yellow scales. It is said, although only very sparingly soluble in water, to act as an anthelmintic and germicide of a most powerful kind, speedily killing many of the more common microörganisms or paralyzing their development. Dr. Warden has also partially examined these berries, and quite independently extracted therefrom a bright yellow scaly alkaloid which he calls embeline. Further research is being made to determine whether the new principle is an alkaloid or a glucoside.

Dr. Hurry Fenwick recently gave some interesting

demonstrations by means of decapitated frogs of the inhibitory action of cocaine as a diagnostic factor in cases of neuralgic pain of the cranial, cervical, intercostal, renal, and lumbo-sacral nerves. Thus, without a vesico-rectal injection of cocaine, the leg of a decapitated frog was rapidly jerked out of a weak acid solution in a fraction of a second, but after cocaine had been injected into the bladder or rectum, the leg was not withdrawn until after twenty to thirty seconds. This inhibitory power was only observed when weak acid solutions were used. Cocaine possessed no power of delaying the reflex excitability consequent upon stronger acid solutions. The following propositions were formulated: 1. Slight nerve irritations, as neuralgias of any part, can be relieved by injection into the urethra of a few drops of a 10 or 20 per cent. solution of cocaine. 2. Severe nerve irritations, as the pain of carcinoma, etc., cannot be thus relieved. Mr. Fenwick has used this knowledge largely in the differential diagnosis of urinary disease. Thus, if the renal pain was immediately relieved by cocaine, he judged the neuralgia to be due to a slight irritation, such as that experienced in lithiasis, congestion or grit. If unrelieved he diagnosed more serious mischief, as stone, dilated pelvis, etc. He also drew attention to the value of cocaine in operations upon the bladder and urethra in preventing damage to an unhealthy kidney, and that the renal congestion produced by distending the bladder or injuring the walls, and this flooding of the kidney which, if the organ was damaged, led to rigors, suppressions and suppurations, might be wholly or partially prevented by the inhibitory action of cocaine upon the renal circulation. Mr. Fenwick gave also a long series of cases in which pain in various parts of the body had been temporarily relieved in 30 to 180 seconds by the urethral injection of a 20 per cent. solution of cocaine.

Mr. Frederic Treves has devised a somewhat new plan for the treatment of carotid hæmorrhage when taking place from a small distant branch, as he considers the ligature of the carotid trunk was a severe, and often unnecessary method of treatment. His plan is to expose the artery and pass a thread of catgut round it, if the loop thus formed is pulled up, pulsation in the artery stops, if relaxed the circulation goes on again In four cases he has quite recently found this maneuver successful, and one great recommendation of the method pointed out to be, there are no grave risks from the operation itself, and in the four cases under his care there had been no local inflammation, nor had there been obliteration of the vessel.

Dr. T. Robinson has just brought out a useful little work upon "The Diagnosis and Treatment of Eczema," in which he has annihilated the ideas of Mr. Hutchinson, Sir James Paget and Dr. Laycock. Dr. Robinson considers that persons having an eczematous diathesis show a tendency to become bald or gray early in life, their teeth degenerate early, their incisors often wearing down and falling out. The nails also present many forms of malformation, such as being marked with white spots and transverse lines, being pitted with small circular depressions, or in some the longitudinal flutings being exaggerated. As to the shape of the nail, it is often flat, sometimes even concave in its upper surface, frequently shaped like a shield; arcus senilis is also well marked as a rule in cases of eczema.

Mr. I. Brown, one of the provincial medical officers of health under the local government board, has drawn attention to the prophylactic properties of carbolized oil in early and continued inunction in cases of scarlatina. The oil he suggests cortains only 3 per cent. of pure carbolic acid, and he suggests use as soon as the rash is out over the whole of the body with the exception of the face. The inunction is used twice a day with a warm bath every night and the treatment to be continued until the sixth week, by which time the desquamation is generally complete.

An interesting case of antiseptic incision in a case of abscess of the liver is recorded. The patient, aged 30, being placed under the influence of ether, an incision about four inches in length was made half an inch below and parallel to the right costal margin, commencing two inches external to the linea alba; a dissection was made to the peritoneum which was cut though. It was then seen that the upper surface of the liver was adherent to the diaphragm as far as the margin of the ribs, distinct fluctuation could be felt by passing one finger on the under surface of the liver and another on the lowest part of the thoracic wall. The peritoneal wound was then closed with catgut sutures and a trocar passed through the adhesion into the abscess cavity. The opening made by the trocar was gradually opened and ten ounces of pus evacuated. The cavity was syringed with a solution of 1 in 5000 perchloride of mercury, the wound closed by catgut sutures and dressed antiseptically. On the third day the temperature was normal and at the end of a month the tube was removed, and the patient was well a few days later.

Dr. Buisson, of Paris, claims to cure hydrophobia by hot baths often repeated, he makes his patient remain continually in a hot room and the baths given are made as hot as 142°. G. O. M.

DOMESTIC CORRESPONDENCE

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

New York County Medical Association—New York Quarantine Station—Hospital Saturday and Sunday Fund—Hudson River Ice—Bequest to the Academy's Library—Bichloride of Mercury for Children.

The annual meeting of the New York County Medical Association was held Monday evening, January 16, when the following officers were elected for the ensuing year: President, Dr. J. R. MacGregor; Vice-President, Dr. C. S. Wood; Recording Secretary, Dr. Frank Graner; Corresponding and Statistical Secretary, Dr. J. W. Small; Treasurer, Dr. C. Ellery Denison; Member of the Executive Committee, Dr. Charles A. Leale. On this occasion there

was an attractive discussion on The Diagnosis and Treatment of Pleural Effusions, which was opened by Dr. Edward G. Janeway; and among the other speakers were Drs. J. Lewis Smith and Charles A. Leale.

After the repeated exposures that have been made of the many abuses existing at the New York Quarantine Station, it is seriously to be hoped that the Legislature will be sufficiently alive to the influence of public opinion, if not to a sense of their duty, to place the quarantine establishment on a business basis, to abolish its extortionate revenues, and to see that the contributions made by the public to secure its efficiency should be devoted under strict accountability to that purpose alone, and that its management be put into competent and responsible hands. During the first few days of the session one or two measures providing for certain reforms in this department, which, strangely enough, emanated from the very quarantine ring which for years has been mismanaging its affairs for political ends; but, whether from distrust of the motives of their originators or some other cause, nothing has as yet been done to secure a business like and efficient quarantine management. Yet the exigency is a pressing one. In the forcible language of Mayor Hewitt, in transmitting to the Governor and Legislature the report of the Committee of the Academy of Medicine on their investigation of the quarantine station: "It is evident that neither this city nor the State, nor any other portions of the Union, are free from the dangers of the spread of contagious diseases unless the quarantine establishment at this port, under the control of the State authorities, is at once reformed and reconstructed. The danger of delay is too imminent to admit of any postponement whatever."

The Presbyterian churches whose hospital this year, much to the regret of the other hospitals, and of many prominent Presbyterians also, withdrew from the Hospital Saturday and Sunday Association, seem to have made special efforts to secure large contributions for their institution, as it was recently announced that during and since the Christmas holidays the Presbyterian Hospital had received no less than $31,000. Notwithstanding this withdrawal in subscriptions to its funds, it was stated at the annual meeting of the Hospital Saturday and Sunday Association, which was held Jan. 16, that the receipts reported from the annual collection were this season in excess of those of last year at the same date after the collection. Up to Jan. 18 the reported receipts had amounted to $45,725. The Roman Catholic and Presbyterian churches are the only ones that do not contribute to the funds of the Association, the aim of the managers of which has been to render it more and more unsectarian by the discouragement of designated offerings in their annual collection.

In the light of the investigations reported by Dr. Prudden in his paper read before the Academy of Medicine last year, there is reason to fear that consumers of Hudson River ice will next summer be exposed to greater danger than ever, since, owing to the lack of continued cold weather, a larger quantity of ice than usual has been gathered from the upper Hudson, which receives the sewage of Albany, Troy, and other cities and large towns. During the past autumn typhoid fever was so prevalent at Albany that the Mayor, at the request of the Board of Health, issued a proclamation urging the citizens generally to boil the drinking-water, which was believed to be the source of trouble.

The Academy of Medicine has recently received a valuable addition to its library, in the shape of about 6,000 books that belonged to the late Dr. Middleton Goldsmith, of Rutland, Vermont, formerly of this city, and one of the founders of the New York Pathological Society. The *Rutland Herald* states that Dr. Goldsmith, feeling that death was near, wrote for his friend Dr. John C. Peters, with a view to turning his library, through him, over to the Academy. He had not embodied the bequest in his will, however, and his daughters, who were anxious to carry out his wishes, were told by their lawyers (their father being then unconscious) that, in the absence of a verbal or written conveyance, the library would have to be sold with the rest of the estate. They watched him anxiously, and only a few hours before he died he recovered consciousness and said, in answer to an inquiry: "Tell Peters to come on and get the books."

In order to prevent possible mistakes, it should be stated that the quantities of bichloride of mercury mentioned as safe to be given to children of various ages, in the notice of Dr. J. Lewis Smith's recent paper on diphtheria, published in THE JOURNAL of January 7, were meant, not for a single dose, but for administration during twenty-four hours.

P. B. P.

THE PNEUMATIC CABINET AND ITS CLAIMS.

Dear Sir:—A recent discussion at the Academy of Medicine in New York, in which I had the honor of participating, showed such widespread misconception of certain facts of medical history and of physical law, that I desire to place on record in a journal that reaches the members of the profession in all sections of the country, some of the most serious of the objections which a number of physicians having no pecuniary interest in any form of instrument, but for many years extremely interested in promoting resort to pneumatic treatment as a powerful agent for good in the management of pulmonary diseases, and especially of phthisis, hold against the claims made for the instrument advertised as the "Pneumatic Cabinet." These objections are:

1. That the good or bad effects obtained in treatment of disease by modification of air pressure are due to that modification, and not to the particular apparatus employed; as a definite solution of morphine, for example, administered from a glass tumbler, and the same solution of morphine administered from a silver teaspoon, have exactly the same effect.

2. That, with the very moderate pressures employed in the pneumatic cabinet, which are all within ordinary barometric ranges; that is to say, within the ranges to which the organism is always in process of adjusting itself, the effect due to any *absolute change* of pressure is *nil;* and that therefore the effects, good,

bad, or indifferent, are due solely to the *difference* of *pressure* between *respired* and *surrounding atmospheres.*

3. That, as the effects are thus due to differences of pressure (or "pneumatic differentiation"), it is a matter of indifference, therapeutically, by what mechanism these differences are obtained. That, in other words, supposing barometric pressure to be represented by 30 inches of mercury, the physiological, and therefore therapeutic effect of reducing the air about the patient to a pressure of 29 inches, while he breathes the ordinary (30 in.) air, is exactly equivalent to the effect of increasing the pressure of respired air to 31 inches while the patient remains in the ordinary (30 in.) atmosphere; the effect in either case being due not to absolute pressure, but to a difference of pressure represented in each instance by one inch of mercury. In the same manner as the physical effect of "pneumatic differentiation" upon the mercury column of the gauge is identical in both cases, so the physiological effects upon a patient are identical in both cases.

4. That the question of apparatus becomes thus simply a question of convenience and of expense.

5. That, provided any apparatus permits the following four modifications of pressure, or any combination of them, it fulfils all indications; and the choice of instruments can be made by the physician, independent of any mysterious advantages alleged, but never demonstrated, for any particular apparatus:

1. Air pressure within the thorax at rest exceeds atmospheric pressure—during inspiration.

2. Air pressure within the thorax at rest exceeds atmospheric pressure—during expiration.

3. Air pressure within the thorax at rest is less than atmospheric pressure—during inspiration.

4. Air pressure within the thorax at rest is less than atmospheric pressure—during expiration.

(We speak of the "thorax *at rest*" to exclude the effects of muscular movement and elastic traction, which are the same under similar conditions, independent of "pneumatic differentiation.")

The first condition is fulfilled by *inhaling condensed air* or *rarefying surrounding air.*

The second condition is fulfilled by *exhaling into rarefied air* or *condensing surroundig air.*

These *facilitate respiration.*

The third condition is fulfilled by *inhaling rarefied air*, or *condensing surrounding air.*

The fourth condition is fulfilled by *exhaling into condensed air* or *rarefying surrounding air.*

These *render respiration more difficult.*

6. That the pneumatic cabinet is less convenient than gasometer apparatus for the following reasons:

The pneumatic cabinet, as ordinarily employed, combines the *first* and *fourth* conditions, and is exactly equivalent to *continuous respiration of condensed air* with a double-cylinder Waldenburg apparatus, or one of its modifications; or to inhaling from a single-cylinder apparatus, and having the mask fitted with an expiratory resistance valve. It is also possible to employ the cabinet with a combination of the *second* and *third* conditions; but, although other possibilities than these two are claimed for it they have never been demonstrated in practice, and its most honest advocates frankly admit that they are not practical.

With the Waldenburg and similar apparatus, the following eight methods are both possible and practical, and have all been employed:

A. Any one of the four, alone.
B. First and second.
C. First and fourth.
D. Second and third.
E. Third and fourth.

The most useful of all combinations are the first and second and the third and fourth; *both practically impossible with the cabinet;* as are also all of the single methods, which are often more useful than any of the combinations.

7. The pneumatic cabinet is far more expensive than gasometer apparatus, which now range in cost from $30 to $90; and its use is thus restricted, while gasometer apparatus can be purchased by any physician and by many patients.

8. In view of the recorded history of pneumatic treatment, and of the facts that the pneumatic cabinet is a "patented remedy"; that it has no advantages physically or clinically over other apparatus; that it offers less mechanical facilities for variations of method; that the patient is shut away from examination and control during treatment or from prompt assistance in case of accident; that the cost of the cabinet is out of all proportion to the cost of other instruments, thus tending to prevent rather than promote the extension to all needing it of the benefits of this plan of treatment, we respectfully submit:

9. That while those who prefer the cabinet upon commercial, æsthetic, or mechanical grounds are entitled to use and express that preference, they are not justified, either by recorded facts or physical principles, in claiming novelty or superiority for the instrument, its therapeutic methods or its clinical results; or in representing as the beginning and the end of the science of pneumo-therapy an instrument which is simply a comparatively unimportant incident in its development.

In thus endeavoring, in the interests of science and of humanity, to record the truth about a much beclouded matter, I have no desire to detract from any merit of which the history of their invention will show my friends Mr. Ketchum and Dr. Williams to be deserving; and, as I frankly stated in the discussion at New York referred to in the beginning of this letter, I think they are entitled to thanks for having, by their business push, given professional prominence to a subject to which their predecessors in the field had not succeeded in attracting much attention in America, outside of the city of Philadelphia. I am yours very truly, SOLOMON SOLIS-COHEN, M.D.

Philadelphia, January 20, 1888.

THE AMERICAN PHYSIOLOGICAL ASSOCIATION was organized on Dec. 30, in New York City, for the promotion of physiological research and of social intercourse among the physiologists of the country. Dr. H. P. Bowditch, of Boston, is the President, and Prof. H. N. Martin, of Baltimore, Secretary and Treasurer.

NECROLOGY.

J. F. WAKEFIELD, M.D.

J. F. Wakefield, M.D., the oldest physician in Everett, Mass., was born in Londonderry, Vt., June 20, 1825, and died at his residence Friday evening, January 14, 1887. His sickness was long and painful. This began with a serious attack of inflammatory rheumatism about two years before his death and its convalescent stages developed serious complications of the heart and liver, with dropsical symptoms. These increased in intensity during the last year, accompanied with indications of blood poisoning, yet he bore it with a Christian fortitude, as those who were constantly with him can testify. His cheerful, happy disposition robbed the sick room of its gloom until the last moments of his life.

Dr. Wakefield was beloved and respected by all those who had the pleasure of his acquaintance. Those to whom he rendered professional services, his loss is felt as a personal bereavement; his presence brought into the sick room encouragement and hope, his kind offices to the suffering will remain a pleasant recollection in many households.

Dr. Wakefield attended lectures and took his degree at Philadelphia Medical College in 1853, and at once came to South Malden (now Everett), to make this place his home and grow up with the people. It required courage for a young man, 28 years of age, to wait the slow process required to gain the confidence of the community. His untiring devotion to his patients was in later years rewarded by a large and lucrative practice. No call was ever made for his services which did not receive prompt attention, oftentimes when he really was the one who most required professional care, and his visits in very many cases he well knew were gratuitous.

His straightforward, manly course soon attracted the attention of his fellow townsmen, and offices of trust and responsibility were given him. He was a member of Palestine Lodge of F. and A. M.; was a charter-member of Paladium Council, No. 287, Royal Arcanum, and its Treasurer until within a few months of his decease, honorary member of the Legion of Honor, and its examining surgeon, also Treasurer of the Everett Associates, for sixteen years, resigning his trust only within a few days of his death; and was a member of Massachusetts Medical Society, connected with the Middlesex South District; an active and much respected member of this organization, having held the office of one of its Censors several years, and been one of its Counsellors at different times. He was a member of the American Medical Association since 1865. He enjoyed the fullest confidence of this large and influential society of physicians.

Dr. Wakefield was a life-long temperance man, attended the Congregational church in Everett, although an Episcopalian in religious belief. In politics he was a stanch Republican.

He leaves a widow whose love and devotion during his long weary months of suffering was rewarded by his grateful appreciation of her tender care, and the kind offices so freely extended by neighbors and friends never failed to receive his warmest gratitude. Thus passed *from* life, *through* death, *into* life beyond, this "good physician." The funeral services were held Monday, January 17, a private burial service at the house, after which public services in the Congregational church, the Episcopal clergyman officiating, after which Palestine Lodge of F. and A. M., conducted the impressive masonic burial service. He was buried at Woodlawn. F. B. W.

MISCELLANEOUS.

BACILLUS OF CANCER.—Some time ago Scheurlen announced in Berlin his discovery of a bacillus of cancer, which could be cultivated, and when inoculated on lower animals produced cancerous growths. On December 19, a letter from Dr. Domingos Freire, of Rio de Janeiro, was read before the Society for Internal Medicine of Berlin, claiming priority in the discovery, and showing that Scheurlen's observations are confirmatory of his own.

ROLL OF PERMANENT MEMBERS. — The name of Felix Formento, M.D., of New Orleans, La., was unintentionally omitted from the list published in THE JOURNAL of December, 31, 1887. In the same published list the residence of Dr. C. B. Powell is given as Attica, Ia., when it should have been Albia, Ia.; and that of Dr. J. D. Roberts, Goldsboro, N. C., should have been Durham N. C.

THE TOKIO MEDICAL LIBRARY has now the largest collection of English books in Japan. Most of them have been obtained by donation, and in the case of periodicals by exchange with the *Sei I Kwai* medical journal, the organ of the Sei I Kwai, the Society for the advancement of medical science in Japan.

DR. R. HARVEY REED calls attention to the frequently filthy condition of the water tanks on railway passenger cars, 21.5 per cent. of them being found in bad condition, and frequently containing articles the sight of which would, temporarily at least, allay the most severe thirst.

THE "DIETETIC GAZETTE" is the new name of the *Journal of Reconstructives*, edited by Dr. George B. Fowler, of New York.

PROFESSOR PURJINKE has recently celebrated his centennial birthday at Breslau.

DR. ALBERT, Professor of Surgery of the University of Vienna, has received the title of K. K. Hofrath.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM JANUARY 21, 1888, TO JANUARY 27, 1888.

Capt. H. G. Burton, Asst. Surgeon, granted leave of absence for one year on S. C. D., to take effect when able to travel. S. O. 19, A. G. O., January 24, 1888.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE WEEK ENDING JANUARY 28, 1888.

P. A. Surgeon W. A. Wheeler, granted leave of absence for thirty days. January 24, 1888.

P. A. Surgeon J. H. White, granted leave of absence for two days. January 26, 1888.

Asst. Surgeon R. B. Watkins, granted leave of absence for thirty days. January 28, 1888. Resignation accepted, to take effect March 15, 1888. January 28, 1888.

Asst. Surgeon G. T. Vaughan, appointed an Asst. Surgeon January 25, 1888, vice A. D. Bevan, resigned. Assigned to temporary duty at Marine Hospital, Boston, Mass. January 26, 1888.